II International Medical Ozone Federation Congress. IMEOF

III Mexican Ozonetherapy Association Congress. AMOZON

"For the Integration of Ozonetherapy into the Conventional Medicine"

Abstract Book

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Preface

The committee of this Congress in collaboration with IMEOF-AMOZON gives the warmest welcome to those professionals who practice Ozone Therapy.

This third Mexican Congress of Ozone Therapy and the second Congress of IMEOF under the slogan: *"For the Integration of Ozone Therapy in Conventional Medicine"* will raise different medical applications of Ozone-Oxygen Therapy in different pathologies as well as the legal aspects related with its use, looking for its integration and acceptance by the Scientific and Conventional Medicine.
This meeting will include interesting pre-congress workshops in charge of recognized specialists in each one of their fields which will contribute to enrich the correct and professional use of this therapeutic tool.

This congress will also raise important and relevant topics from today's world, having the presence of national and international high public figures in the Ozone Therapy field, which at the same time will promote the international academic, scientific and social collaboration and exchange.

The high scientific level of the national and foreign speakers and the wide spectrum of nowadays specialties, justify the execution of this important event that will show the present state and development of Ozone Therapy in the different topics that will be raised.

We appreciate your trust and interest for the organization of this International Congress IMEOF-AMOZON and we would like to show our gratitude to those National and Foreign Companies which have chosen this event as framework for the presentation, promotion and marketing of these products.

Finally, but not less important, we would also like to invite you to enjoy the beautiful city of Cancun, one of the most important and international touristic attractions and the main destination in Mexico. It's fantastic beaches, archeological history, cultural infrastructure, friendliness and, above all, services that it provides, will allow this event to take place in the best environment of kindness, brotherhood and friendship for its great organization and development.

Welcome all.
Organizing Committee.

Conference Agenda Pre-congress workshops

Thursday, 10	Room "Great Salon" Hotel Great Parnasuss
08:00-9:00	**Registration**
Thursday, 10	Room "Acropolis I" Hotel Great Parnasuss
Growth Factors Ozonized Platelet: Applications in Aesthetic Medicine and Knee Degenerative Osteoarthritis	
09:00-10:30	**Lecture:** Biochemical bases of ozone action mechanism. Gregorio Martínez-Sánchez (Ph.D.) Cuba. *Senior Researcher and Scientific Director of Medinat srl. Ancona, Italy. Member of ISCO3*
10:30-11:15	**Coffee Break**
11:15-12:45	**Lecture:** Platelet Reach Factors: Back ground, methods, indications and clinical uses. MD. Adriana Schwartz Tapia. Spain. *Director of Clínica Fiorela, Madrid, Spain. President of AEPROMO. President of IMEOF. Secretary ISCO3*
12.45-14.15	**Lecture:** Platelet Reach Factors: Bibliographic up-date and clinical experiences. MD. Joaquín Cabot. Spain. Ortopaedics and Traumatology / Knee Degenerative Osteoarthritis / Spain
14.15-15-30	**Lunch**
15:30-17:00	**Practical session 1:** Platelet Grown Factors: Medical and Aesthetic Applications Part I. MD. Joaquín Cabot. Spain. Ortopaedics and Traumatology / Knee Degenerative Osteoarthritis / Spain MD. Adriana Schwartz Tapia. Spain. *Director of Clínica Fiorela, Madrid, Spain. President of AEPROMO. President of IMEOF. Secretary ISCO3*
17:00-17:30	**Coffee Break**
17.30-18.30	**Practical session 2:** Platelet Grown Factors: Medical and Aesthetic Applications Part II. Professors: the same as in practical session 1.
Thursday, 10	Room "Acropolis II" Hotel Great Parnasuss
Oxidative Stress: Diagnostic and Antioxidant Interventions	
09:00-09:45	**Lecture:** Oxidative Stress, State of the Art Dr. José Carlos Jiménez Ortega Ph.D. National Medical Center of Molecular Biology, Departament of Applied Medical Molecular Biology
09:45-10:00	**Coffee Break**
10:00-11:00	**Lecture:** Antioxidants Basic Concepts Prof. Luisa Batilde Lima Hernández National Rehabilitation Center, Hospital Julio Díaz, Cuba
11:00-11:45	**Coffee Break**
11:45-12:45	**Lecture:** Exogenous Antioxidants. Prof. Luisa Batilde Lima Hernández
12:45-13:00	**Coffee Break**
13:00-14:00	**Lecture:** Essential Antioxidants trace elements. Prof. Luisa Batilde Lima Hernández
14.00-15-30	**Lunch**
15:30-16:15	**Lecture:** Oxidative Stress Basic Concepts Dr. José Carlos Jiménez Ortega Ph.D.
16:15-16:30	**Coffee Break**
16.30-17.15	**Lecture:** Oxidative Stress and Physiological Modulators Dr. José Carlos Jiménez Ortega Ph.D.
17:15-17:30	**Coffee Break**
17.30-18.45	**Workshop:** Global Assay for Oxidative Stress

Thursday, 10 Room "Acropolis III" Hotel Great Parnasuss

Integration of Oxygen/Ozone Therapy in Dental Medicine- A Comprehensive Review

09:00-11:00	I. Foundational Oxygen/Ozone Therapy. Professors: MD. Phill Mollica. / MD. Robert Harris.
11:00-11:45	**Coffee Break**
11:45-14:15	II. Ozone Instrumentation: Ozone unit specifications. Specific configurations for: Nasal and air insufflations, water ozonation, dental handpiece use and syringe filling. Professors: MD. Phill Mollica. / MD. Robert Harris.
14.15-15-30	**Lunch**
15:30-17:00	III. Clinical Applications.Restorative dental procedures, Adhesive dental procedures, Periodontal dental procedures, Endodontic dental procedures, Surgical dental procedures and Dental hygiene procedures. Professors: MD. Phill Mollica. / MD. Robert Harris.
17:00-17:30	**Coffee Break**
17.30-18.30	IV. Review of Handout Material: Basic Scientific Facts, Frequently Asked Questions, Brief Description of Specific Dental Applications

Note: If nothing else is specified, all events take place at Hotel Great Paranasuss

Conference Agenda

Thursday 10th - Friday 11th, November 2011.

Thursday, 10	Room "Great Salon" Hotel Great Parnassus
08:00-9:00	**Registration**
09:00-18:30	**Pre-congress workshops**
19:00-20:30	**Welcome Reception:** Club Caribe, Hotel Great Parnassus
Friday, 11	
08:00-9:15	**Registration.** Room "Auditorium" Hotel Great Parnassus
09:15-9:30	**Welcome / Open ceremony** Welcoming speech: Dr. Froylan Alvarado Güémez. President of AMOZON
9:30-9:45	Welcoming speech: Dra. Adriana Schwartz Tapia. President of IMEOF
9:45-10:00	Welcoming speech: Health Ministry official
10:00-11:15	**Plenary Lecture.** Chairs: Bioch.**Carla Núñez Lima** / Dr. Gregorio Martínez-Sánchez / Dr. Froylan Alvarado **10.00 Opening lecture** Dr. Froylán Alvarado Güémez (MEX): Teaching strategy based on learning needs assessment for training in the practice of Ozone Therapy **10.20** Dr. Gregorio Martínez Sánchez (CUB): Ozonetherapy Puzzle, Pieces Fall in Place with Redox Clinical Diagnostic **10.40** Prof. Luisa Batilde Lima Hernández. Nutritional Supplements and Ozone therapy: A preliminary study **11.00-11.15 Discussion**
11:15-12:00	**Coffee Break**
12:00-13:55	**Plenary Lecture.** Chairs: **Dra. Silvia Díaz Llera** /Prof. Luisa Batilde Lima Hernández / / Dr. Nabil Mawsouf **12.00** Dra. Vivian Borroto Rodríguez (CUB): Effect of the Medical Ozone in Habituation and in Memory Consolidation, in Mice. **12.20** Silvia Díaz Llera (CUB): Is Therapeutic Ozone Genotoxic? **12.40** Dra. Ángeles Erario (ARG): Degenerative disc disease. Disc regeneration clinical protocol using mesenchymal stem cells, effectors T cells and oxygen-ozone therapy **13.00** Dr. Héctor Pérez Saad (CUB): Effect of the Medical Ozone on Cardiotoxic Action of Digoxine **13.20** Dr. Nabil Mawsouf (EGY): Cardioprotective effects of Ozone Oxidative Preconditioning in an in vivo model of ischemia/reperfusion injury **13.40-13.55 Discussion**
13.55-15.30	**Lunch**
15:30-17:25	**Plenary Lecture.** Chairs: **Dr. Fernando Kirchner** / Dra. Rafaela Mego Benites / Dr. Sergey Peretyagin **15.30** Dr. Sergey Peretyagin (RUS): Functional and metabolic basis of ozone-depend posthypoxic rehabilitation **15.50** Dra. Rafaela Mego Benites (MEX): Facilitating regeneration herniated disc in paravertebral intramuscular ozone therapy **16.10** Dr. Ramiro Ramírez Gutiérrez (MEX): The Ozonotherapy in Lumbar Spinal Stenosis **16.30** Dr. Fernando Kirchner (SPA): *Ozonized Plasma rich in proteins for the treatment of disc and articular pathologies of vertebral column* **16.50** Dr. Joaquín Cabot (SPA): Combined Technique of Ozontherapy and Platelet Derived Growth Factors in the Knee Osteoarthritis **17.10-17.25 Discussion**
17:25-18:10	**Coffee Break**
18:10-19:05	**Plenary Lecture.** Chairs: **Dr. Joaquín Cabot** / Dra. Adriana Schwartz Tapia / Dr. Gennady O. Grechkanev **18.10** Dra. Adriana Schwartz Tapia (SPA): Ozone Therapy in Recurrent VulvoVaginal Candida Albicans Infections **18.30** Dr. Gennady O. Grechkanev (RUS): Ozonetherapy in a Complex Treatment of Tubal Peritoneal Sterility **18.50-19.05 Discussion**
19.30	IMEOF Meeting (Presidents of the present Associations)

Conference Agenda

Saturday 12th, November 2011.

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9:00-11:00	**Plenary Lecture.** Chairs: **Dr. Jaime Rebeil Félix** / Dr. Aníbal Grangeat / Dr. Carlos Amador Cobas Santos **9.00** Dr. Ramiro Alvarado (BOL): Treatment for Radicular Compression and Spondylodiscitis by Ozone Therapy. First Experience in Bolivia **9.20** Dr. Jaime Rebeil Félix (MEX): Neurophatic Pain Management With Ozone Injections **9.40** Dr. Carlos Amador Cobas Santos (CUB): Application of ozone in the interventional treatment of pain. Cuban experience. **10.00** Dr. Ofir Betancourt (VEN) Legg-Calvé-Perthes disease **10.20** Dr. Aníbal Grangeat (ARG): Inflammatory mechanism involved in acute disc herniation (hydrated nucleus pulpous) **10.40-11.00 Discussion**
11:00-11:45	**Coffee Break**
11:45-13:40	**Plenary Lecture.** Chairs: **Dra. Nora Bazzano Mastelli** / Dr. Phill Mollica / Dra. Mirta Copello Noblet **11.45** Dra. Mirta Copello Noblet (CUB): Clinical Experience in the Treatment of Hemorrhagic Conjunctivitis with OLEOZON eye drops **12.05** Dr. Heinz Konrad (BRA): Osteomyelitis of the sternum with two independent fistulae, successfully treated with ozone. A case report." **12.25** Dra. Nora Bazzano Mastelli (ARG): The biofilms, enemies of health? how to fight them with Ozone **12.45** Dr. Robert Harris (USA): Advanced Clinical Procedures for Remediation Head and Neck Infection utilizing Oxygen/Ozone Therapy. Part 1 **13.05** Dr. Phill Mollica (USA): Advanced Clinical Procedures for Remediation Head and Neck Infection utilizing Oxygen/Ozone Therapy. Part 2 **13.25-13.40 Discussion**
13.40-15.30	**Lunch**
15:30-17:05	**Plenary Lecture.** Chairs: **Dr. José C. Jiménez Ortega** / Dr. Frank A. Shallenberger / Dr. Luis David Suárez R. **15.30** Dr. José Carlos Jiménez Ortega (MEX): Modulation of Oxidative Stress by Ozone Therapy: Innovation and Harmony in the Integrated Treatment of Skin Malignancies. **15.50** Dr. Héctor Enrique Velázquez González (MEX): Blood-Borne and Sexually Transmitted Diseases Managed with Ozone Therapy **16.10** Dr. Frank A. Shallenberger (USA): Prolozone - Regenerating Joints and Eliminating Pain **16.30** Dr. Luis David Suárez Rodríguez (MEX): Treatment of Increased Intestinal Wall Permeability (Leaky Gut) and the Associated Immune System Dysfunctions with Colonic Hydrotherapy Followed by Rectal Insufflations and Minor Autohemotherapy with Oxygen- Ozone. **16.45-17.00 Discussion**
17:05-17:45	**Coffee Break / Parallel Poster Section ***
17:45-19:00	**Plenary Lecture.** Chairs: **Dra. Adriana Schwartz Tapia** / Dr. Cakir Ruhi / Dr. Danilo Ruiz Reyes **17.45** Dr. Cakir Ruhi (TUR): Clarifying Oxidative Stress and Antioxidant Potantials Assays. **18.05** Dr. Danilo Ruiz Reyes (ECU): Ozonetherapy in the spinal disc herniation **18.25** Dr. Roberto Quintero Mariño (SPA): Advances in the Ozonetherapy regularization and obstacles faced **18.45-19.00 Discussion**
19.00	Call for the Amozon´s Ordinary General Assembly. Plenary Hall Hotel Parnassus. Closing Ceremony.
19.30-21.00	AMOZON´s Ordinary General Assembly. Plenary Hall Hotel Parnassus.
21.00	**Farewell dinner / Cultural gala** with pre-Hispanic show. Parnassus Hotel Grand Salon Restaurant.

* All posters should be hanging in the morning of Thursday 10 and removed in the afternoon of Saturday 12.
Parallel Poster section Chair: **Prof. Luisa Batilde Lima**, Dr. Héctor Enrique Velázquez González, Dr. Robert Harris.

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Friday, 11

Saturday, 12

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Dr. Jaime Rebeil Félix (MEX)	Treatment of Neuropathic Pain by Ozone Injections
Dr. Carlos Amador Cobas Santos (CUB)	Application of Ozone in the Interventional Treatment of Pain. Cuban Experience.
Dr. Ofir Betancourt (VEN)	Legg-Calvé-Perthes disease
Dr. Aníbal Grangeat (ARG)	Inflammatory mechanism involved in acute disc herniation (hydrated nucleus pulpous)
Dra. Mirta Copello Noblet (CUB)	Clinical experience in the treatment of Epidemic Hemorrhagic Conjunctivitis with OLEOZON collyrium
Dr. Heinz Konrad (BRA)	Ozone Therapy Cured a Double External Fistula
Dra. Nora Bazzano Mastelli (ARG)	Biofilms in oral infection preventing with Ozone Therapy
Dr. Robert Harris (USA)	Advanced Clinical Procedures for Remediation Head and Neck Infection utilizing Oxygen/Ozone Therapy. Part 1
Dr. Phill Mollica (USA)	Advanced Clinical Procedures for Remediation Head and Neck Infection utilizing Oxygen/Ozone Therapy. Part 2
Dr. José Carlos Jiménez Ortega (MEX)	Modulation of Oxidative Stress by Ozone Therapy: Innovation and Harmony in the Integrated Treatment of Skin Malignancies
Dr. Héctor Enrique Velázquez González (MEX)	Blood-Borne and Sexually Transmitted Diseases Managed with Ozone Therapy
Dr. Frank A. Shallenberger (USA)	Prolozone - Regenerating Joints and Eliminating Pain
Dr. Luis David Suárez Rodríguez (MEX)	Treatment of Increased Intestinal Wall Permeability (Leaky Gut) and the Associated Immune System Dysfunctions with Colonic Hydrotherapy Followed by Rectal Insufflations and Minor Autohemotherapy with Oxygen- Ozone.
Dr. Cakir Ruhi (TUR)	Clarifying Oxidative Stress and Antioxidant Potantials Assays
Dr. Danilo Ruiz Reyes (ECU)	Ozonetherapy in the spinal disc herniation
Dr. Roberto Quintero Mariño (SPA)	Advances in the Ozonetherapy regularization and obstacles faced.

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Plenary lecture

Teaching Strategy Based on Learning Needs Assessment for Training in the Practice of Ozone Therapy

Dr. Froylán Alvarado Güémez

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Graduate medical education quality is considered as guarantees not only a mere accumulation of knowledge, but it allows a continuous learning to expand the potential of the individual and to provide better performance as a professional. With this principle, was implemented in Mexico an educational system for training doctors in the practice of ozone therapy. From May 2003 to September 2011 have been imparted 16 Ozone Therapy Training Programs, each of which includes three separate courses: Basic, Intermediate and Advanced, with a total of 605 participating physicians, 91.1% Mexican and the rest foreigners. Applied learning strategy is based on the active interaction of teachers with students, having a constant feedback that encourages interest and learning. Subsequently, the model has been implemented as a course / problem based on finding solutions to the various situations that arise in everyday medical practice. In May 2006 began more specialized courses, "Special Ozone Injections in Spine Pathology," exclusively to students who had spent the three training modules, where 36 specialists have been involved. Parallel Workshop Courses were implemented as the Theoretical Practical Course named “Pain Treatment by injections with ozone” with the same registration requirements as above and with the participation of 116 physicians, anesthesiologists and orthopedic fundamentally. Tests and surveys conducted before and after practice support arise to conclusion that 96% of students have a high satisfaction with the knowledge acquired and the total sample considered to have increased their professional competence. A future strategy is to establish an strong link with the Hyperbaric Medicine and Ozone Therapy Unit of the Civil Hospital of Culiacan belonging to the Faculty of Medicine of Autonomous University of Sinaloa (UAS) for teaching and research and to establish agreements and exchanges with other associations and institutions in this field. The report discusses various figures, and other aspects of interest between the Department of Continuing Education at the UAS and the Mexican Association of Ozone Therapy.

Key: PL1

Type of Presentation: Oral Presentation

Key words: Ozone therapy, education, courses, learning, training programs

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Conferencia Plenaria

Estrategia docente basada en el diagnóstico de necesidades de aprendizaje para la capacitación en la práctica de la Ozonoterapia

Dr. Froylán Alvarado Güémez

Profesor Adjunto, Facultad de Medicina, Universidad Autónoma de Sinaloa (UAS), México. Presidente Asociación Mexicana de Ozonoterapia (AMOZON). Miembro de ISCO3 / IMEOF. Dirección: Descartes 466, Int A, Colonia Villa Universidad, Culiacán, Sinaloa, México. Tel./Fax: 52 6677531584 E.mail: info@amozon.org.mx

La docencia médica de postgrado se considera de calidad cuando garantiza no solo una mera acumulación de conocimientos, sino que permite un aprendizaje constante que expanda las potencialidades del individuo y le facilite un mejor desempeño como profesional. Con este principio se implementó en México un sistema docente para la capacitación de los médicos en la práctica de la Ozonoterapia. Desde mayo de 2003 hasta septiembre de 2011 se han impartido un total de 16 Programas de Entrenamiento en Ozonoterapia, cada uno de los cuales incluye 3 cursos independientes: Básico, Intermedio y Avanzado, donde han participado 605 médicos, 91,1% mexicanos y el resto extranjeros. La estrategia de enseñanza aplicada se ha basado en la interacción activa de los profesores con los estudiantes, habiendo una retroalimentación constante que motive el interés y el aprendizaje. Posteriormente se ha ido implementando el modelo curso/problema basado en dar solución a las diferentes situaciones que se presentan en la práctica médica cotidiana. En marzo de 2006 se comenzaron cursos de mayor especialización: “Infiltraciones Especiales con Ozono para Patología de Columna Vertebral", exclusivamente para alumnos que hubieran pasado los 3 módulos del Entrenamiento, donde han intervenido 36 especialistas. Paralelamente se implementaron los "Cursos Taller Teórico Práctico de Tratamiento del Dolor por medio de Inyecciones con Ozono" con iguales requisitos de inscripción que el anterior y con la participación de 116 médicos, fundamentalmente anestesiólogos y ortopedicos. Los exámenes y las encuestas realizadas tras los entrenamientos permiten afirmar que el 96% de los estudiantes tiene una alta satisfacción en cuanto a los conocimientos adquiridos y el total de la muestra considera haber aumentado su competencia profesional. Como estrategias futuras está establecer un vínculo muy estrecho con la Unidad de Medicina Hiperbárica y Ozonoterapia del Hospital Civil de Culiacán perteneciente a la Facultad de Medicina de la Universidad Autónoma de Sinaloa (UAS) con fines docentes e investigativos y establecer convenios e intercambios con otras Sociedades o entidades que trabajen en este mismo campo. En el informe se discuten diversas cifras, así como otros aspectos de interés sobre el trabajo mancomunado entre el Departamento de Educación Médica Continua de la UAS y la Asociación Mexicana de Ozonoterapia.

Key: PL1

Tipo de Presentación: Oral

Palabras clave: Ozonoterapia, docencia, cursos, aprendizaje, programas de entrenamiento

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Plenary lecture

Ozonetherapy Puzzle, Pieces Fall in Place with Redox Clinical Diagnostic

Gregorio Martínez-Sánchez, Pharm. D. Ph.D.[1]; Lamberto Re, M.D., Ph.D. [1,2]

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Ozone, when used at appropriate doses, promotes the formation of reactive oxygen species and lipid peroxides allow them to become late and long-lasting messengers. The paradoxical concept that ozone eventually induces an antioxidant response capable of reversing a chronic oxidative stress is already supported by findings of an increased level of antioxidant enzymes during ozone therapy. Part of the origin of the variability of the clinical response to ozone therapy comes from the lack of an appropriate clinical diagnostic of the redox status. Patients with severe disruption in the redox systems may not respond to the oxidant stimulus of ozone. The methodology for detecting oxidative stress status at clinical level is hardly to be found in the literature. There are some useful methods for investigating the oxidative profile but they are not applicable to the clinical practice. A group of analytic methods for the diagnosis of the oxidative stress has been validated. Those methods allow to establish the reference values in normal populations, and individualized diagnostic as a base to establish the adequate ozone dose, to follow the effect of ozone therapy, and any additional nutritional or pharmacological intervention. The methodology include clinical markers of biomolecule damage, antioxidant enzymes, concentration of low level antioxidant and indicators of total antioxidant status. The methods are adaptable to micro and ultramicro analytic systems and were validated according to the international recommendations. Low cost, high precision, fast analysis and integral evaluation of the redox system are the main characteristic of those methods.

Key: PL2 ENG

Type of Presentation: Oral Presentation

Key words: ozone, oxidative stress, clinical diagnostic, reactive oxygen species

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Conferencia Plenaria

El Diagnóstico Clínico del Sistema Redox Complementa la Ozonoterapia

Gregorio Martínez-Sánchez, Pharm. D. Ph.D.[1]; Lamberto Re, M.D., Ph.D. [1,2]

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El ozono, cuando se usa en dosis apropiadas, promueve la formación de especies reactivas del oxígeno y peróxidos lipídicos que constituyen mensajeros tempranos y tardíos de sus acciones. La paradoja relativa a cómo el ozono siendo un agente oxidante, puede revertir estados patológicos caracterizados por un estrés oxidativo crónico, se ha fundamentado por su capacidad para inducir enzimas antioxidantes. Parte de la variabilidad de la respuesta terapéutica al ozono proviene de la falta de un sistema de diagnóstico del estado redox del paciente. Sujetos con un desorden severo del equilibrio antioxidantes / pro-oxidantes pudieran no responder al ozono. Los métodos para medir el estrés oxidativo a nivel clínico no están del todo establecidos. Existen algunos métodos válidos para la investigación pero no aplicables a las condiciones de la práctica clínica. Un grupo de estos indicadores ha sido validado para su aplicación clínica en el contexto de la ozonoterapia. Los métodos permiten establecer valores de referencia en poblaciones normales y personalizar el diagnóstico para establecer la dosis apropiada de ozono, seguir el efecto de la terapia y de cualquier otra intervención nutricional o farmacológica. Los métodos abarcan la medición de indicadores de daño a biomoléculas, la actividad de las enzimas antioxidantes, concentración de antioxidantes de bajo peso molecular e indicadores de actividad antioxidante total. El procedimiento es ajustable a sistemas micro y ultramicroanalíticos y han sido validados de acuerdo a los estándares internacionales. Se caracterizan por su bajo costo, alta precisión, rapidez y valoración integral del estado redox.

Key: PL2 SPA

Tipo de participación: Presentación oral.

Palabras clave: ozono, estrés oxidativo, diagnostico clínico, especies reactivas del oxígeno

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Plenary lecture

Nutritional supplements and Ozone Therapy: A preliminary study.

Luisa Batilde Lima Hernández[1], Vivian Borroto Rodríguez[2]

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Nutritional supplements, rich in antioxidant compounds have been used for years primarily to prevent the excessive oxidative stress. Ozone therapy is also closely related to these processes, so it is important to study the effect of nutritional supplements when used in conjunction with this therapeutic procedure. A study was conducted with 909 patients attending the Department of Ozone Therapy in the Quality of Life Area of the National Center of Natural and Traditional Medicine in Cuba from June 2006 to June 2008. The patient population was divided into three groups having as criteria the nutritional supplementation: 1) Group that uses low-dose, 2) Group that uses high doses and 3) group don´t consumed. From each of these groups was randomly selected a subgroup of 20 patients who had blood measurements above normal values at the following compounds: glucose, creatinine, triglycerides and cholesterol. According to the pathology present, they were treated with ozone rectal insufflations, with escalating doses from 2.500 to 8.000 micrograms per patient, using from 100 mL to 200 mL of volume and concentrations from 25 to 40 µg/mL. They were advised everyone not to take vitamin C or vitamin E during the ozone treatment to optimize the effect of the therapy. The biochemical variables mentioned above and also the behavior of some general clinical parameters as pain, memory, sleep quality, vision, hearing and physical performance were assessed before and after the treatment, and then monthly for 6 months. In all cases, ozone therapy improved health status of patients, but the benefits are obtained faster and were more durable in patients who received no nutritional supplements, followed in decreasing order for those who took a few supplements and finally for those supplemented with two or more drugs daily. There was significant difference $p \leq 0.05$ between Groups 1 and 2 and between Group 2 and 3, but not between Group 1 and 3, suggesting that excessive use of nutritional supplements reduced or delayed the effect of ozone therapy.

Key: PL3 ENG

Type of Presentation: Oral Presentation

Key words: nutritional supplements, oxidative stress, antioxidants, ozone therapy

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Conferencia Plenaria

Suplementos nutricionales y Ozonoterapia: Estudio preliminar

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Los suplementos nutricionales, ricos en compuestos antioxidantes se emplean desde hace años sobre todo para contrarrestar el estrés oxidativo exagerado. La ozonoterapia también está muy relacionada con estos procesos, de modo que es importante estudiar el efecto que pueden ejercer los suplementos nutricionales al usarse conjuntamente con este proceder terapéutico. Se realizó un estudio con 909 pacientes que asistieron al Departamento de Ozonoterapia del Centro de Calidad de Vida del Centro Nacional de Medicina Natural y Tradicional de Cuba en el periodo comprendido entre junio de 2006 a junio de 2008. La población objeto de estudio se dividió en tres grandes grupos teniendo como criterio el consumo de suplementos nutricionales: 1) Grupo que los consume en bajas dosis, 2) Grupo que los consume en altas dosis y 3) Grupo que no los consume. De cada uno de estos grupos se seleccionaron de forma aleatoria subgrupos de 20 pacientes, los cuales presentaban en sangre por encima de sus valores normales uno o más de los siguientes compuestos: glucosa, creatinina, triglicéridos y colesterol. Según la patología que presentaran se les aplicó tratamiento con ozono por vía rectal, con dosis escalonadas desde 2,5 mg hasta 8,0 mg por paciente, usando volúmenes desde 100 mL hasta 200 mL y concentraciones desde 25 µg/mL hasta 40 µg/mL. Se les indicó a todos no tomar vitamina C ni vitamina E durante el tratamiento con ozono para optimizar el efecto de la terapia. Las variables bioquímicas antes mencionadas y también el comportamiento de algunos parámetros clínicos generales como dolor, memoria, calidad de sueño, visión, audición, y rendimiento físico, fueron evaluados antes y después del tratamiento y luego mensualmente durante 6 meses. En todos los casos la ozonoterapia mejoró el estado de salud de los pacientes, pero los beneficios se obtuvieron más rápido y fueron más duraderos en los pacientes que no recibían suplementos nutricionales, siguiendo en orden decreciente los que tomaban pocos suplementos y por último los que se suplementaban con más de un medicamento de este tipo diariamente. Hubo diferencia significativa $p \leq 0,05$ entre los Grupos 1 y 2 y entre el Grupo 2 y el 3, pero no entre el Grupo 1 y el 3, lo que sugiere que el empleo excesivo de suplementos nutricionales disminuye o retarda el efecto de la ozonoterapia.

Key: PL3 SPA

Tipo de presentación: Oral ≤

Palabras calve: suplementos nutricionales, estrés oxidativo, antioxidantes, ozonoterapia

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Plenary lecture

Effect of the Medical Ozone in Habituation and in Memory Consolidation, in Mice.

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The effects of therapeutic application of medical ozone on cognitive sphere have been little studied, mainly on memory and learning. The aim of the present work was to explore the effect of acute rectal administration of medical ozone on a model of habituation, and on memory consolidation in the passive avoidance model, models that reflect various stages of cognitive activity, particularly memory. Male mice C-57 (24-26 g body weight) were used. In the former model exploratory behavior in the nine square box was filmed during 6 min, every 4 or 5 days, until complete 8 experiments (4 weeks). Medical oxygen (controls) or ozone-oxygen (1.2 mg/kg) were administered 5 consecutive days per week, until 3 weeks. Thereafter the number of rearing and squares crossed were measured. In the latter model, the animals were introduced in the illuminated compartment of the passive avoidance box, and allowed to enter the dark compartment, where they received an electrical foot shock (acquisition). At the end of session the animals received oxygen or ozone-oxygen at mentioned route and dose, and then put it and tested again in the box 24 h later (second session). The time spent in the illuminated compartment before entering the dark one was measured. Habituation was expressed by a reduction in exploratory behavior after several sessions. The ozone treated animals exhibited quicker decline in rearing behavior (statistically significant), and similar tendency in the number of squares crossed, when compared to oxygen treated animals, suggesting a more quick habituation. No statistical differences in behavior was observed between ozone treated and oxygen treated mice, in the passive avoidance test., suggesting that post training ozone administration does not affect memory consolidation.

Key: PL4 ENG

Type of Presentation: Oral Presentation

Key words: ozone, memory consolidation, cognitive activity, exploratory behavior

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Efecto del Ozono Médico en la Habituación y en la Consolidación de la Memoria en Ratones.

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Los efectos de la aplicación terapéutica del ozono médico en la esfera cognitiva han sido poco estudiados, y específicamente en la memoria y el aprendizaje. El objetivo del presente trabajo fue explorar el efecto de la administración rectal de ozono médico en el fenómeno neurofisiológico de la habituación, y en la consolidación de la memoria en la caja de evitación pasiva, como modelos que reflejan varios componentes de la actividad cognitiva, particularmente la memoria. En los experimentos se emplearon ratones machos C-57, de 24-26 g de peso corporal. En el primer modelo se filmó la conducta exploratoria en cajas individuales (caja de los 9 cuadros) durante 6 min, cada 4 o 5 días, hasta completar 8 experimentos (cuatro semanas). Después de cada sesión conductual, los grupos recibieron oxígeno médico (0,5 mL) y ozono-oxígeno (1,2 mg/kg) por 5 días consecutivos cada semana por 3 semanas. Posteriormente se cuantificó el número de paradas en dos patas y el número de cambios de cuadro. En el segundo modelo los animales fueron introducidos en el compartimento iluminado y recibieron choque eléctrico en el compartimento oscuro (adquisición). Al finalizar la sesión los animales recibieron oxígeno u ozono-oxígeno, correspondientemente, empleando la vía y dosis mencionadas, y 24 h después fueron sometidos de nuevo a la prueba. El fenómeno de habituación se expresó en ambos grupos por una reducción progresiva de la conducta exploratoria. Los animales tratados con ozono mostraron una más rápida declinación de los empinamientos (con significación estadística) e igual tendencia en los cambios de cuadros, cuando se compararon con los animales que recibieron oxígeno, indicando una más rápida habituación. En la caja de evitación pasiva no se encontraron diferencias significativas entre el grupo de ozono y el grupo de oxígeno, lo que indica que la administración posentrenamiento del ozono no afecta la consolidación de la memoria.

Key: PL4 SPA
Tipo de Presentación: Presentación Oral
Palabras clave: ozono, consolidación de la memoria, actividad cognitiva, conducta exploratoria

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Plenary lecture

Is Therapeutic Ozone Genotoxic?

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Ozone is a potent oxidant toxic agent as environmental pollutant to human air ways. However, it is applied as chemotherapeutic agent below controlled conditions and proper concentrations to diverse disturbances expressed through deficit of antioxidant defences because of its proven effect to stimulate them. It has also been confirmed that ozone is mutagenic in microorganisms and genotoxic in animals and human cells in vitro. We studied the genotoxic activity of therapeutic ozone in animal models, human cells in vitro and in patients receiving the therapy. Two levels of genetic damage were analysed, cytogenetic damage by chromosomal aberrations assay and primary lesions to DNA by the Comet assay. The results show that therapeutic ozone is not clastogenic in patients, but induces of DNA single strand breaks in exposed cells probably through its reactive intermediaries as hydrogen peroxide. The recovery of the cell damage was followed after the treatments confirming that DNA damage declines after the end of exposure.

Key: PL5 ENG

Type of Presentation: Oral Presentation

Key words: ozone, genotoxicity, DNA damage, comet assay

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Plenary lecture

Degenerative disc disease. Disc regeneration clinical protocol using mesenchymal stem cells, effectors T cells and oxygen-ozone therapy.

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The main purpose of our work is to present the protocol for regeneration of inter vertebral disc using mesenchymal stem cells, effector T cells and oxygen ozone therapy in degenerative disc disease.We took as a pre-clinical experience, an experimental work conducted in 30 rats, which underwent intervertebral disc degeneration, and were regenerated using MSC (mesenchymal stem cells), effector T lymphocytes (ETC) and oxygen ozone oxidative preconditioning.Using the combination of these three agents, we have regenerated the intervertebral disc of the rats. Therefore, we are able to extrapolate our experience in patients.During the first stage, we determined safety and effectiveness in order to proceed with the following phases.For following phases, we developed this protocol that includes all the necessary steps to carry out this procedure in patients.We worked under the evaluation and obtained the approval of the Committees on Bioethics and Teaching and Research at Maimonides University, from Buenos Aires, Argentina.

Key: PL6 ENG

Type of Presentation: Oral Presentation

Key words: ozone, Mesenchymal Stem Cells, degenerative disc disease, ozonetherapy

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Protocolo de regeneración del disco intervertebral en la enfermedad crónica degenerativa discal con MSC-ETC y Oxígeno-Ozonoterapia.

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El objetivo del trabajo es presentar el protocolo de regeneración del disco intervertebral, en la enfermedad degenerativa discal con células madre mesenquimales, linfocitos T efectores y oxígeno ozonoterapia. Tomamos como experiencia pre clínica, un trabajo experimental realizado en 30 ratas, a las que se le realizo la degeneración del disco intervertebral, y se les regeneró utilizando MSC (células madre mesenquimales), linfocitos T efectores (ETC) y precondicionamiento oxidativo con oxígeno ozonoterapia. Utilizando la combinación de estos tres agentes logramos regenerar el disco intervertebral de la rata. Por ello, estamos en condiciones de extrapolar nuestra experiencia en pacientes.En primera instancia, presentamos este protocolo fase I y II, para determinar la seguridad y efectividad respectivamente, para luego avanzar en las siguientes fases. Para esto, desarrollamos este protocolo que incluye todas las etapas necesarias para llevar a cabo este procedimiento en pacientes, y que fue sometido a la evaluación y aprobación de los comités de Bioética y Docencia e Investigación de la Universidad Maimónides, de la Ciudad Autónoma de Buenos Aires, Argentina.

Key: PL6 SPA

Tipo de Presentación: Presentación Oral

Palabras clave: ozono, Células madre mesenquimales, enfermedad degenerativa discal, ozonoterapia

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Plenary lecture

Effect of the Medical Ozone on Cardiotoxic Action of Digoxine

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Several reports of basic and clinical studies have suggested a beneficial effect of the administration of ozone in the heart contraction, starting from experiments in isolated heart, and in clinical investigations. However, studies don't exist on the interaction of the medical ozone with other pharmacological agents used chronically in the treatment of heart failure. The objective of the present work was to study the interaction of the medical ozone with digoxin, through the cardiotoxic action of the latter. In the experiments male mice C-57 from 20 g to 24 g of corporal weight were used. Four groups divided in 6 subgrups of 6 animals each, were used. Two of the groups received oxygen (control) or ozone-oxygen (1.2 mg/kg), correspondingly, in volumes of 0.5 mL, 30 min before intraperitoneal administration digoxine was performed, in doses of 2, 2.5, 3.0, 3.5, 4.0 and 4.5 mg / kg respectively. The other two groups received oxygen or ozone-oxygen during 6 serial days and digoxine 24 h later, using the referred route and dose. For the calculation of DL_{10}, DL_{50} and DL_{90}, as well as for the analysis of the parallelism and displacement of the dose-response curves, the method of LIchtfield and Wilcoxon (computerized) was used. The results showed increase in digoxina toxicity in the group treated with ozone, when compare to oxygen treated group.

Key: PL7 ENG

Type of Presentation: Oral Presentation

Key words: ozone, heart contraction, digoxin, cardiotoxicity

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Efecto del Ozono Médico en la Acción Cardiotóxica de la Digoxina

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Varios reportes de estudios básicos y clínicos han sugerido un efecto beneficioso de la administración de ozono en la contractibilidad cardíaca, a partir de experimentos en corazón aislado y en investigaciones clínicas. Sin embargo, no existen estudios sobre la interacción del ozono médico con otros agentes farmacológicos empleados crónicamente en el tratamiento de dicha condición clínica. El objetivo del presente trabajo fue estudiar la interacción del ozono médico con la digoxina, a través de la acción cardiotóxica de esta última. En los experimentos se emplearon ratones C-57 machos de 20 g a 24 g de peso corporal. Se conformaron 4 grupos divididos a su vez en 6 subgrupos de 6 animales cada uno. Dos de los grupos recibieron oxígeno (control) u ozono-oxígeno (1,2 mg/kg), respectivamente, por vía rectal, en volúmenes de 0,5 mL, 30 min antes de la administración de digoxina por vía intraperitoneal, en dosis de 2,0; 2,5; 3,0; 3,5; 4,0 y 4,5 mg/kg correspondientes a los diferentes subgrupos. Los otros dos grupos recibieron oxígeno u ozono-oxígeno durante 6 días consecutivos y digoxina 24 h después, empleando la vía y dosis referidas. Se empleó el método de LIchtfield y Wilcoxon para el cálculo de las DL_{10}, DL_{50} y DL_{90}, así como para el análisis del paralelismo y desplazamiento de las curvas dosis-respuesta. Los resultados mostraron un incremento en la toxicidad de la digoxina en los animales tratados con ozone cuando se compararon con el grupo que recibió oxígeno.

Key: PL7 SPA

Tipo de participación: Presentación oral.

Palabras clave: ozono, contracción cardiaca, digoxina, cardio-toxicidad

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Cardioprotective Effects of Ozone Oxidative Preconditioning in an in vivo Model of Ischemia/Reperfusion Injury

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The present study was designed to investigate the cardio-protective effects of ozone oxidative preconditioning in myocardial ischemia/reperfusion (I/R)-induced hemodynamic, biochemical and histological changes in rats. Rats were randomly assigned into 5 groups. Groups 1 and 2 were normal and I/R groups, respectively. The other groups received by rectal insufflations 5 days per week either ozone (0.3 mg/kg/day in 1st week followed by 0.5 mg/kg/day in 2nd week) or ozone (0.6 mg/kg/day in 1st week followed by 1 mg/kg/day in 2nd week). The last group received oxygen vehicle. Rats were then subjected to myocardial I/R (40 min / 10 min). Heart rates and ventricular arrhythmias were recorded during I/R progress. At the end of reperfusion, plasma creatine kinase-MB (CK-MB) and total nitrate/nitrite (NO_x) were determined. In addition, lactate, adenine nucleotides, thiobarbituric acid reactive substances (TBARS), reduced glutathione (GSH) and myeloperoxidase (MPO) activity were estimated in the left ventricle of heart. Finally, histological examination was performed to visualize the protective cellular effects of ozone oxidative preconditioning. Only higher dose ozone therapy showed little protective effect against ventricular arrhythmias and was able to counteract the state of oxidative stress and normalize elevated MPO activity and plasma NO_x. Moreover, higher dose ozone therapy was more effective in attenuating CK-MB release, lactate accumulation and improving energy production. It seems that both doses of ozone therapy were equally protective against cell membrane damage. However, higher dose ozone therapy was better in improvement of intracellular acidosis, energy production, oxidative stress, leukocyte infiltration. Histological examination revealed also better improvement by higher dose of ozone therapy compared to I/R group.

Key: PL8 ENG

Type of Presentation: Oral Presentation

Key words: ozone, myocardial ischemia/reperfusion, oxidative preconditioning

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Functional and Metabolic Basis of Posthypoxic Rehabilitation by Ozone

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The aim of this work was the experimental investigation of ozone possibilities in early postreanimational period. We experimentally modeled circulatory and haemic hypoxia (Wiggers model of hemorrhagic shock) at 276 dogs. Control points are immediately after this influence and at 60 min after it. We used 2 variant of intensive ozone therapy: substitutive infusion therapy by ozonized sodium chloride solution and extracorporal autoblood processing by ozone in early postreanimational period. We tested systemic, peripheric and organic blood circulation, respiration, acid-base balance and blood gases, blood pro- and antioxidation potential. Also we carried out histochemical, biochemical, morphological and ultrastructural investigations of myocardium. It was stated, that at hemorrhage (31 mL/kg) and 1-hour hypotension morphofunctional and metabolic disorders of organism oxygen homeostasis are formed. In this conditions ozone parenteral use had an antihypoxic effect, including oxidative modification of blood plasma lipoprotein complexes and blood cells membranes. It is accompanied by erythrocytes deformation properties elevation and optimization of blood rheology. Ozone caused glucose level increasing and its non-fully oxidated products. Energy-rich phosphates synthesis in erythrocytes is activated, that leads to oxyhemoglobin dissociation facilitation and blood oxygen transport function normalization. At hemorrhagic shock ozonized sodium chloride solution infusion elevated adaptation reactions of cardiorespiratory system. Ozone increased myocardium contractive function and stroke volume because it optimized myocardial metabolism. It decreased breath rate and increased respiratory volume and oxygen use as a result of elevation of blood serotonin level. In restoration period after hemorrhagic shock extracorporal autoblood processing by ozone elevated cardiomyocytes energetic potential by lactate dehydrogenase activity increasing; initiated glicolytic and pentose-phosphate way of glucose oxidation; intensified of Krebs cycle by pyruvate utilization activation, succinate dehydrogenase initiation and inclusion of short-chain fatty acids in β-oxidation; increased association oxidative phosphorylation processes by restoration of respiratory chain enzymes activity; stimulated of free radical energy generation by temperate initiation of lypoperoxidation. At hypoxic disorders of peripheral blood circulation and microcirculation in postreanimational period blood ozonation leads to its fast and full restoration. Arterial blood pressure and perfusion pressure gradients are elevated, total peripheral resistance of blood vessels are normalized, rectal-skin temperature gradient is desreased, organization of microcirculatory vessels wall is optimized in cell and ultrastructural investigation level. So, ozone use in substitutive infusion therapy by ozonized sodium chloride solution caused blood oxygen transport function and its rheology normalization and adaptation reactions of cardiorespiratory system stimulation. In restoration period extracorporal blood processing by ozone promotes hypoxia removal, elevation of gas-transport blood function, initiation of energy metabolism enzymes. This effects additionally supply reparative regeneration in main organs and systems after serious hypoxia.

Key: PL9 ENG

Type of Presentation: Oral Presentation

Key words: ozone, hypoxia, reanimation, regeneration

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Facilitating regeneration herniated disc in paravertebral intramuscular ozone therapy

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Herniated discs are a major public health problem not yet resolved. Spine surgery has been practiced as a priority in handling this problem with an incidence of 30 % to 60 % of failed back syndrome, for which conservative treatment with ozone therapy should be the first option. We describe a prospective, observational, longitudinal study to evaluate the efficacy of ozone therapy intramuscular paravertebral injection, mainly disc extrusions. We analyzed 25 patients with the diagnosis of lumbar disc herniation radiculopathy. We used the visual analog pain scale (VAS)> 5 over 1 year of evolution. The radiological criteria for inclusion were: evidence from the study of magnetic resonance imaging (MRI) of the herniated disc protrusion and extrusion type. All patients were treated with ozone in the lumbrosacra paravertebral muscle on the affected level, being used dose of 25 µg / mL and a volume of 6 mL to 8 mL per affected level. For functional assessment, the results were graded in different average from excelent to bad. Of the 25 patients, age range was 18 to 75 years, 14 male and 11 female. The affected levels were L5-S1 (32%) and L4-L5 (28%). After two months of treatment was observed: 1) On the functional assessment, 92% had excellent results and 8% good result. The MRI showed a significant volume shrinkage hernia in 84% of patients and was observed in the extruded hernias reabsorption is achieved up to 100%.The paravertebral intramuscular ozone therapy has proven effective on pain and facilitating regeneration, leading to shrinkage of the herniated disc. The present study demonstrates resolute action on the disc extrusions thus avoiding surgery.

Key: PL10 ENG

Type of Presentation: Oral Presentation

Key words: ozone, hernia disk, analog pain scale, pain

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Facilitación de la regeneración discal en hernias discales con ozonoterapia intramuscular paravertebral

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Las hernias de disco representan un serio problema de salud pública que aún no se ha resuelto. La cirugía de columna se viene practicando como prioridad en el manejo de este problema con una incidencia del 30 % a 60% de un síndrome de espalda fallida; por lo cual el tratamiento conservador con ozonoterapia debe ser la primera opción. Se describe un estudio prospectivo, observacional y longitudinal para evaluar la eficacia del ozono intramuscular paravertebral en la retracción discal principalmente de extrusiones. Se analizaron 25 pacientes con el diagnóstico de hernia discal lumbar más radiculopatìa. Se usó la escala visual análogica del dolor (EVA) > a 5 de más de 1 año de evolución. Los criterios radiológicos de inclusión fueron: evidencia del estudio de imagen por resonancia magnética (IRM) de las hernias discales tipo protrusión y extrusión. Todos los pacientes recibieron tratamiento con ozonoterapia intramuscular paravertebral a región lumbrosacra en el nivel afectado, usándose dosis de 25 µg/mL y un volumen de 6 mL a 8 mL por punto afectado. Para la evaluación funcional, se calificaron los resultados como bueno, regular y malo. De los 25 pacientes, el intervalo de edades fue de 18 a 75 años, 14 del género masculino y 11 del género femenino. Los niveles màs afectados fueron L5-S1 (32%) y L4-L5 (28%). Después de dos meses de tratamiento se observó: 1) En cuanto a la evaluación funcional, que el 92% tuvo resultados excelentes y el 8% resultados buenos. La IRM mostró una retracción significativa del volumen de la hernia en el 84% de los pacientes y se observó que en las hernias extruidas la reabsorción se alcanzó en hasta un 100%. La ozonoterapia intramuscular paravertebral ha demostrado su efectividad sobre el dolor y la facilitación de la regeneración, dando lugar a la retracción de las hernias de disco. En el presente estudio se demuestra su acción resolutiva en las extrusiones discales lo que evita la cirugía.

Key: PL10 SPA

Tipo de Presentación: Oral

Palabras claves: ozono, hernia discal, escala visual análoga del dolor, dolor

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Plenary lecture

The Ozonotherapy in Lumbar Spinal Stenosis

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Ozonotherapy is a controversial topic in the occidental medical culture, but its use is gaining popularity recently. The combination ozone-oxygen enhances the chemical properties of ozone, which include: stimulation of glycolisis; immune-regulator action; anesthetic-anti-inflammatory effects; bactericide, antimycotic, and anti-viral effects. Its efficiency in spinal lumbar stenosis is associated mainly to an increase in local oxygenation, as well as an improvement of the oxidative inflammatory condition, particularly, of the neural and disc tissue. The purpose of this paper was to demonstrate that Ozone Therapy is a good alternative non surgical-minimum invasive method for the treatment of degenerative spinal stenosis. Ten patients (10) with symptomatic lumbar degenerative stenosis was enrolled. Those patients were treated with the combination of ozone-oxygen gas through a catheter placed into the epidural space in a 10 consecutive day trial. The dosage used was variable, considering 10 µg/mL to 30 µg/mL of oxygen ozone mixture concentration, at a volume of 10 mL to 30 mL. The clinical outcome measures was the Visual Analogue Scale (VAS) and Oswestry disability index (ODI). Just one out of ten patients that received complete treatment had a clinical improvement less than 40 %. The rest of them had far greater improvement of an average 65% using the visual analogue scale (VAS). 10/10 had an improvement of an average 50 % with the Oswestry disability index (ODI).The treatment with epidural ozone in vertebral degenerative disease is a method that provides medical and functional improvement, as well as low complication rates.

Key: PL11 ENG

Type of Presentation: Oral Presentation

Key words: spinal lumbar stenosis, ozone, epidural, vertebral degenerative disease.

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Conferencia Plenaria

El Uso del Ozono Epidural en el Manejo del Conducto Lumbar Estrecho

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La Ozonoterapia es un tópico controversial en la cultura médica occidental pero su utilidad y resultados han ganado popularidad recientemente. La mezcla ozono-oxígeno estimula la glicólisis, mejora la acción reguladora inmune, tiene efectos antiinflamatorios, así como propiedad anti-infecciosa. Su eficiencia en la enfermedad vertebral degenerativa está asociada principalmente con el incremento local de la oxigenación, así como una mejoría notoria en la condición inflamatoria oxidativa, particularmente en el tejido discal y neural. El propósito de este trabajo es tener en cuenta a la Ozonoterapia como una alternativa de mínima invasión para mejorar la sintomatología dolorosa de los pacientes con estenosis lumbar degenerativa. Diez (10) pacientes fueron sometidos al tratamiento. El método de aplicación fue a través de un catéter epidural durante 10 días con concentraciones de 10 µg/mL a 30 µg/mL, en un volumen de 10 a 30 mL. La medición se realizó a través de la escala de Oswestry y la escala de medición del dolor analógica visual (VAS). Nueve de 10 pacientes tuvieron una mejoría mayor al 65% y uno menor al 40%. Los 10 pacientes tuvieron una mejoría mayor al 50% en la escala de Oswestry. El uso de la Ozonoterapia epidural es un método seguro y que otorga de buenos a excelentes resultados en un alto porcentaje de los pacientes.

Key: PL11 SPA

Tipo de Presentación: Presentación Oral

Palabras Clave: conducto lumbar estrecho, ozono, epidural, enfermedad vertebral degenerativa

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Plenary lecture

Treatment of Disk and Degenerative Pathologies of the Spine with Plasma Rich in Growth Platelet Inhibitors Factors

Dr. Fernando Kirchner van Gelderen

Gabinet Medic Maresme, Mataró, Spain

The good results referred by many authors in the treatment of degenerative diseases: Arthritis and Chondromalacia in the knee. Also in acute pathologies: fractures where speeds up time building bone, or muscles and tendons injuries prompted team Gabinet Médic Maresme (Mataró, Spain) to the application of Plasma Rich in Protein for treatment in the vertebral column making mixed therapy with the placement of the intervertebral disk with subacute or chronic injury of protrusion or herniated disk (excluding extruded herniation) and, at the same time, to administer the Poor Plasma Protein in posterior facet joint affected of overload or declared arthrosis clamping. The technique is done in surgery room, under sedation ambulatory medical control of anesthetic, with radioscopic C-arm image intensifier with high definition. Previously we apply ozone both fractions of plasma to their implementation in a closed circuit, strict rules of asepsis, with antibiotic-therapy (2 g of Cefazolin as prophylactic dose). It is this preliminary report on 50 clinical cases, both involving the lumbar spine as the cervical (December 2010-agost 2011).
Our results:
-Regenerative potentiality of the PRPO3 with early analgesic effect.
-Regenerative capacity of posterior joints thanks to the double effect PPP more ozone.
-Antiseptic effect of ozone on the disk and neighbor structures.
-Technique ambulatory and minimally invasive with few risks.
-Leave completely open to the possibility other treatments or more applications in consultation-room to the ideal point of clinical and functional outcome.
-Satisfactory results in 85% of cases.

Key: PL12 ENG

Type of Presentation: Oral Presentation

Key words: Plasma rich-poor protein, ozone, disk, intervertebral joints, spine.

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Conferencia Plenaria

Tratamiento de las Patologías Discales y Degenerativas de la Columna Vertebral con Plasma Rico en Factores de Crecimiento Plaquetarios

Dr. Fernando Kirchner van Gelderen

Gabinet Medic Maresme, Mataró, Spain

Los buenos resultados referidos por muchos autores en el tratamiento de enfermedades degenerativas: artrosis y la condromalacia en la rodilla; patologías agudas: fracturas donde se acelera la consolidación ósea ó en lesiones musculares y tendinosas, impulsó al equipo del Gabinet Médic Maresme (Mataró, España) a una nueva aplicación del Plasma Rico en Proteínas para el tratamiento en columna vertebral, realizando una terapia mixta, aplicando el PPRO3 ozonizado en disco intervertebral con lesión subaguda o crónica de protrusión o hernia discal (no las extruídas) y administrando, en el mismo tiempo, el $PPPO_3$ en las articulaciones interfascetarias afectas de sobrecarga o en declarado pinzamiento artrósico. Esta técnica se realiza en quirófano bajo sedación ambulatoria, con control médico del anestesista, teleguiadas con arco radioscópico en "C" de alta definición, ozonizando ambas fracciones del plasma inmediatamente antes de su aplicación en circuito cerrado y estrictas normas de asepsia con 2 g de Cefazolina. Este informe preliminar sobre cincuenta casos clínicos, incluye la columna lumbar y cervical desde diciembre 2010 - agosto 2011.
Nuestros resultados:
- Potencialidad regeneradora del PRP-O_3 con repercusión analgésica temprana.
- Capacidad regeneradora de las articulaciones posteriores debido al doble efecto PPP más ozono.
- Efecto antiséptico del ozono sobre el disco y estructuras vecinas.
- Carácter ambulatorio y mínimamente invasivo (con pocos riesgos) de esta técnica.
- Deja totalmente abierta la posibilidad a otros tratamientos o a más aplicaciones en consulta hasta llegar al punto ideal de resultado clínico y funcional.
- Resultados satisfactorios en el 85% de los casos.

Key: PL12 SPA

Tipo de participación: Presentación oral.

Palabras clave: Plasma rico–pobre en proteínas, ozono, disco intervertebral, articulaciones, columna

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Plenary lecture

Combined Technique of Ozontherapy and Platelet Derived Growth Factors in the Knee Osteoarthritis

Joaquín Cabot Dalmau

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The basis for the utilization of Platelet Derived Growth Factors (PDGF) in Orthopaedic Surgery is outlined following the experience of our department. In particular, its use combined with Ozone in intraarticular administration in the knee and the rationale for this. We describe in detail the combined treatment with PDGF and Ozone in Osteoathritis of the knee. A group of 57 patients (73 knees) is studied and the effect of this treatment on Tricompartmental Ostheoarthritis (TO) and Patello-Femoral Syndrome (PF). Using the EVA-VAS score before and 6 months after the treatment, 82% are good in the first group (TO), increasing to 87% in the second group (PF). We highlight the indication for patients who are candidates for Total Knee Replacement (TKR) and wish to delay their surgical treatment and of younger patients with grade I-III Patello-Femoral Syndrome (Chondromalachia) who have not improved with other treatments. We note the effect on athletes who recover to their usual level of fitness. We conclude that this technique is a safe and effective option for the management of Osteoarthritis of the knee. We believe that combining both therapies leads to an additive effect and a safer profile than using them independently. (four years and more than 3000 inyections). We finalize suggesting further work to support our findings.

Key: PL13 ENG

Type of Presentation: Oral Presentation

Key words: PDGF, Oxygen-Ozonetherapy, Knee Osteoarthritis, Non surgical treatment.

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Conferencia Plenaria

Técnica Combinada de Ozonoterapia y Factores de Crecimiento en la Artrosis de Rodilla.

Joaquín Cabot Dalmau

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Se describe las bases del empleo de los Factores de Crecimiento de origen Plaquetario (PRP) en los distintos campos de la Cirugía Ortopédica y Traumatología (COT) según nuestra experiencia, hasta su aplicación intraarticular en la rodilla, a la vez que se justifica el método. Se describe detalladamente la técnica de aplicación combinada de los PRP y el ozono en la artrosis de rodilla. Se estudia un grupo de 57 pacientes (73 rodillas) , afectos de gonartrosis tricompartimental o de condropatia rotuliana, a los que se les aplicó dicho tratamiento. Se describen los primeros resultados obtenidos, que son buenos en el 82% de los primeros y en el 87% de los segundos. Se valora la escala EVA-VAS, antes y a los 6 m. después del tratamiento. Se resaltan las indicaciones especiales en pacientes candidatos a prótesis total de rodilla (PTR) que desean retardar dicha intervención así como en aquellos jóvenes afectos de condropatia grado I-III que no han mejorado con los tratamientos convencionales. Son también interesantes los deportistas que recuperan su nivele habitual anterior a la patología. Se concluye que se trata de una técnica de tratamiento efectiva en las artrosis de rodilla, se destaca la sencillez de la misma y lo interesante de combinar dos terapéuticas diferentes que no han revelado complicación alguna en los últimos 4 años con más de 3000 infiltraciones practicadas y que los resultados sugieren una mayor efectividad y seguridad que el empleo de cualquiera de ellas por separado. Por último se apuntan futuras vías de trabajo para soportar dicha tesis.

Key: PL13 SPA

Tipo de participación: Presentación oral.

Palabras clave: PDGF, PRP, ozonoterapia, artrosis de rodilla, tratamiento no quirúrgico

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Plenary lecture

Ozone Therapy in Recurrent Vulvovaginal *Candida albicans* Infections

Dr. Adriana Schwartz Tapia

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Aassess the effectiveness of the ozone and diet therapy treatment of recurrent vulvo vaginal by *Candida albicans* infections. Vaginitis caused by *Candida albicans* is the most common gynaecological disease found in the primary health care and makes a health issue of great importance because of its high frequency. Patients (150) were selected with ages ranging from 30 to 50 years, with vulvo-vaginitis for at least 6 months of evolution, refractory to usual drug treatment and positive cultures for candidiasis. Hydrocolontherapy machine. Bozon N ozone generator. Disposable vaginal insufflator VIN-100. Set for vaginal injection pure ozonides Bozon-RVPO 6. It was performed one hydrocolontherapy with ozonized water. It was given: diet low in carbohydrates of high glucemic index, homeopathic protocol, daily intravaginal showers with ozonized water (10 sessions), daily intravaginal ozone insufflations at concentration of 20, 15, 10, 5 µg/mL at speed of 0.2 L/min. during 10 min. (10 sessions), application of ozonized oil with peroxide number of 800-600 and 400, during 10 days, 4 autohemotherapy with UV at 20 µg/mL once a week. At the end of treatment were repopulated the vaginal flora with lactobacillus vaginal tablets for 7 days and repopulated the intestinal flora with Lactobacillus using oral route, during 1 month. 85% of patients favourably responded to treatment, 10% remained asymptomatic for a period of less than one year and 5% of patients did not respond to treatment. Intravaginal ozone therapy offers a synergistic action to drug treatment, homeopathic, diet and / or an effective alternative to conventional treatment with usual fungicides, not only achieving a remission of symptoms and negative cultures of vaginal exudates in patients with vulvovaginitis, but also an increase of Ig A and lactobacillus in the vaginal epithelium.

Key: PL14 ENG

Type of Presentation: Oral Presentation

Key words: vaginitis, vulvo-vaginitis, *Candida albicans*, hydrocolontherapy, diet therapy, homeopathy

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Plenary lecture

Ozonetherapy in a Complex Treatment of Tubal Peritoneal Sterility

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It is well known that surgical stress might cause unfavorable changes, involving the system of lipid peroxidation. The recurrence risk of chronic inflammatory processes in uterine appendages should be taken into consideration for ozonetherapy application. The objective of the research was to establish the effectiveness of ozone-therapy before and after the surgical reconstruction of the uterine tubes.There were examined 110 women with infertility of tubal peritoneal genesis, aged 28±4. The diagnosis was made on the basis of histerosalpingography (60%) and diagnostic laparoscopy (40%). Any other infertility factors such as male sterility were excluded. All the patients were done laparoscopic reconstruction of uterine tubes patency. 80 patients that made up the first group in addition to conventional preoperative and post-operation care underwent a course of ozone therapy in a form of rectal insufflations with ozone-oxygen mixture. The other 30 patients from the second group were on conventional treatment. A complex estimation of the immediate and aftercare results was done. All the patients of the first group underwent 3 procedures of ozone therapy before and after laparoscopy. During each procedure the patients were done rectal insufflations of 0.5-0.8 L of ozone-oxygen mixture with ozone concentration of 2000 μg/L. Antibacterial therapy was not done. The second group of patients was on antibacterial and physiotherapy. Clinical observations showed the post-operative course in both group to have no complications. However medium-mass molecules (MMM) and lipid peroxidation (LP) analysis revealed some signs of endogenic intoxication. The elevated MMM, primary-dien (DC), trien conjugates (TC) and shiff bases (SB) levels might have been caused by a surgical stress. Ozone therapy was found to decrease elevated MMM and LP levels that were accompanied by the raise of TAOA. On the 5th postoperative day there were registered the following data: decrease of DC (17%), TC (19%) and SB (25%) with a 1.3 –fold increase of TAOA. The assessed indices returned to normal one in the second group on the 8th-10th postoperative day. Follow-up care included rectal ozone therapy. The results received a year after the operation showed that uterine pregnancy was diagnosed in 37% cases while in the control group it occurred in 20% of cases.The use of rectal insufflations with medical ozone in a complex pre-operative management of patients for correction of tubal sterility as well as during the aftercare can improve the immediate and follow up results. The observed effect is evidently due to normalizing ozone influence on the level of endogenic intoxication and lipid peroxidation condition.

Key: PL15 ENG

Type of Presentation: Oral Presentation

Key words: Femeal infertilty, ozonetherapy, uterine tubes, rectal insufflation

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Plenary lecture

Treatment for Radicular Compression and Spondylodiscitis by Ozone Therapy. First Experience in Bolivia

Alvarado Ramiro, M.D.

Police Hospital and Arco Iris Hospital, La Paz, Bolivia.

This study reports the first experience in Bolivia from August 2003 to June 2011. on treatment of 492 patients with herniated discs in cervical thoracic and lumbar level and 14 patients with spondylodiscitis (disc space infection). Patients (492) were treated with radicular compression at cervical, thoracic and lumbar level 285 males and 207 females. At first an intra discal injections of ozone at 30 micrograms was performed, followed by 15 or 20 paravertebral injections at 20 micrograms and 14 cases of spondylodiscitis (disc space infection) five cases post surgical infection and 9 of spontaneous origin. Among the 492 patients with radicular compression, it was observed that sensory and motor dysfunction were completely abolished in 335 patients (68 %), improved in 98 patients (20 %), with poor results and the dysfunction remained unchanged in 59 patients 12 %, some of them underwent surgical treatment. As a whole 433 patients, 88% obtained excellent and good results. Among the patients treated for spondylodiscitis, all of them obtained very good results. With the treatment of ozone therapy it is possible to obtain excellent and good results in 88 % of the cases. Ozone is a useful alternative in its effectiveness. Using this minimal invasive method, complications like fail back syndrome can be avoided.

Key: PL16 ENG

Type of Presentation: Oral Presentation

Key words: Reticular compression, spondylodiscitis, ozone therapy, nucleolysis

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Conferencia Plenaria

Tratamiento de la Compresión Radicular y la Espondilodiscitis con Ozonoterapia. Primera Experiencia en Bolivia

Alvarado Ramiro, M.D.

Police Hospital and Arco Iris Hospital, La Paz, Bolivia.

Se realizó la primera experiencia de Ozonoterapia en Bolivia desde Agosto de 2003 a Junio 2011, con 492 pacientes portadores de hernias discales a nivel cervical, torácico y lumbar también catorce pacientes con espondilodiscitis (infección del espacio intervertebral). Se trataron 492 pacientes con compresión radicular a nivel cervical, torácico y lumbar. 285 varones y 207 mujeres Primero se realiza inyección intradiscal de mezcla de oxigeno-ozono a 30 microgramos, seguidas de 15 a 20 inyecciones paravertebrales metaméricas de ozonoterapia a 20 microgramos y 14 casos de espondilodiscitis, cinco infecciones post quirúrgica y 9 espontaneas. El la compresión radicular de los 492 se observo que las alteraciones motoras y sensitivas fueron abolidas en 335 pacientes 68%, mejorados 98 pacientes, 20 % y sin ningún resultado en 59 pacientes 12 %, algunos de este grupo fueron intervenidos quirúrgicamente, lo que equivale a un 88% de buenos resultados con la Ozonoterapia. En los pacientes con espondilodiscitis la evolución fue satisfactoria en los 14 pacientes. Con el tratamiento de Ozonoterapia, se consigue excelentes y buenos resultados en un 88 %, de los casos la efectividad del uso de este nuevo método mínimamente invasivo, no tiene complicaciones, retorno rápido a la actividad laboral, de bajo costo evitando la intervención quirúrgica en la mayoría de los casos y sus secuelas como la fibrosis, columna inestable y el temido síndrome de columna fallida.

Key: PL16 SPA

Tipo de participación: Presentación oral.

Palabras clave: Reticular compression, spondylodiscitis, ozone therapy, nucleolysis

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Plenary lecture

Treatment of Neuropathic Pain by Ozone Injections

Dr. Jaime Rebeil Félix

Head of Pain Clinic of General Hospital in Hermosillo, Sonora, Mexico.

With the purpose of knowing about ozone effectiveness in neuropathic pain, we studied the use of ozone injections in neuropathic pain patient attending our Pain Clinic. The pain syndromes treated were the following: Carpal tunnel syndrome, cubital tunnel syndrome at the elbow, posterior tarsal tunnel syndrome, anterior tarsal tunnel syndrome, traumatic brachial plexus injuries, Pancoast syndrome, complex regional pain syndrome, narrow cervical canal, narrow lumbar canal, diabetic neuropathy, acute herpes zoster pain, post herpetic neuritis, trigeminal neuralgia, esphenopalatin neuralgia and occipital neuralgia. Ozone 10 µg / mL was injected directly at the pathologic process site, such as carpal tunnel or cubital tunnel, 3 to 5 mL volume. In the case of brachial plexus pathology either posttraumatic or compressive (Pancoast syndrome) ozone was injected directly in the brachial plexus by the inter scalene approach, 20 mL volume. In the painful pathologies caused by nerve root compression at the cervical level by herniated disc or narrow cervical spinal canal, ozone was applied at the epidural interlaminar thoracic level, T1-T2 or T3-T4, 20 mL volume or directly on the brachial plexus by the inter scalene approach, 20 mL volume. In the cases of lumbar root pain caused by herniated disc or narrow lumbar spinal canal, we used the epidural caudal approach, 20 a 40 mL volume or the lumbar para vertebral approach, 20 mL directly over the nerve root or a combination of both techniques. In the cases of herpes zoster pain or diabetic mono neuropathy, ozone was applied according to the neuropathy location. Example at the thoracic level we injected the ozone by the thoracic para vertebral approach directly over the affected nerve root, 10 mL volume or at the intercostal space, 10 mL volume. When the neuropathy affected cervical roots, we injected the ozone directly over the brachial plexus by inter scalene approach, 20 ml volume. In the case of trigeminal neuralgia, ozone was injected directly over the affected branch 5 mL volume and in the case of sphenopalatine neuralgia ozone was injected in the sphenopalatine fossa, 5 mL volume. Patients benefited from ozone application between 75 % and 90 % of cases, varying according to the pathology treated. We achieved pain relief over 70 % according to visual analog scale for more than six months. There were no serious complications.

Key: PL17 ENG

Type of Presentation: Oral Presentation

Key words: ozone, ozone injections, neuropathic pain, pain clinic

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Conferencia Plenaria

Tratamiento del Dolor Neuropático Mediante Inyecciones con Ozono

Dr. Jaime Rebeil Félix

Jefe de la Clínica del Dolor del Hospital General del Estado Dr. Ernesto Ramos Bours, Hermosillo, Sonora, México.

Con el objetivo de conocer la utilidad del ozono en el alivio del dolor neuropático. Se estudió el uso de inyecciones con ozono para el tratamiento de dolor neuropático en pacientes que asisten a la Clínica del Dolor. Los síndromes dolorosos tratados fueron los siguientes: Síndrome del túnel del carpo, síndrome del túnel cubital a nivel del codo, síndrome del túnel del tarso posterior, síndrome del túnel del tarso anterior, lesiones traumáticas del plexo braquial, síndrome de Pancoast, síndrome de dolor regional complejo, conducto espinal cervical estrecho, conducto espinal lumbar estrecho, neuropatía diabética, dolor por herpes zoster agudo, neuritis pos herpética, neuralgia del trigémino, neuralgia del esfenoplatino y neuralgia occipital. El estudio se realizó en los pacientes de la Clínica del Dolor que cursaban con dolor neuropático, a los cuales se les inyectó ozono 10 µg / mL directamente en el sitio donde se encontraba el proceso patológico, ej. En el túnel del carpo, o el túnel cubital, un volumen de 3 mL a 5 mL. En el caso de patologías del plexo braquial, ya sea postraumática o compresiva (síndrome de Pancoast), se utilizó infiltración directa sobre el plexo braquial utilizando la vía interescalénica, un volumen de 20 mL. En la patología dolorosa por compresión de raíces nerviosas a nivel cervical por hernia de disco o conducto cervical estrecho se aplicó ozono por vía epidural interlaminar torácica a nivel de T1-T2 o T2-T3, un volumen de 20 mL o bien directamente sobre el plexo braquial por vía interescalénica 20 mL. En los casos de dolor radicular lumbosacro por hernia discal o conducto lumbar estrecho se utilizó el abordaje epidural por la vía caudal, 20 mL a 40 mL, o el abordaje paravertebral, 20 mL, directamente sobre la raíz nerviosa afectada, o bien una combinación de los dos. En el caso de dolor por herpes zoster o mono neuropatía diabética la aplicación se realizó de acuerdo a la ubicación de la neuropatía; por ej.: a nivel torácico utilizamos un abordaje paravertebral torácico directamente sobre las raíces afectadas, un volumen de 10 mL o bien en el espacio intercostal, 10 mL. Cuando la neuropatía era de raíces cervicales realizamos una aplicación directa sobre el plexo braquial por vía interescalénica, 20 mL. En el caso de la neuralgia del trigémino la inyección se aplicó directamente sobre la rama afectada, 5 mL y en el caso de la neuralgia del esfenopalatino inyectamos el ozono directamente en la fosa esfenopalatina, 5 mL. Los paciente se beneficiaron con las aplicaciones de ozono entre el 75 % a 90 % de los casos, variando de acuerdo a la patología tratada, logrando un alivio del dolor superior al 70% de acuerdo a la Escala Visual Análoga, por un periodo mayor de 6 meses. No se presentaron complicaciones serias. El ozono demostró ser un recurso terapéutico muy valioso en el manejo del dolor neuropático periférico, donde se logró alivio del dolor en la mayoría de los pacientes, con un mínimo de efectos secundarios y con un bajo costo económico.

Key: PL17 SPA

Tipo de participación: Presentación oral.

Palabras clave: ozono, Inyecciones con ozono, clínica del dolor.

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Plenary lecture

Application of Ozone in the Interventional Treatment of Pain. Cuban Experience.

Carlos Amador Cobas Santos

- Director, Pain Management Unit and palliative care, Ozone therapy department.
- Assistant Professor of Anesthesiology and Reanimation. Hospital Hermanos Ameijeiras, Havana, Cuba.

The discipline of the study and treatment of the pain is related with the application of the technical pain interventionists, procedure slightly invasive of diagnostic and treatment. The main procedures ozone therapy interventionists carried out in the Hospital Hermanos Ameijeiras of Cuba are the blockades epidurals, disko lysis, nerve blocks and infiltrations of the joint and outlying nerves. In 3 years they were assisted in consultation 15285 patients, with an average for 23 patients' consultation, to 19.1% they were carried out procedures, and of them 5.6% was with ozone, the infiltrations knee joint and shoulder stood out; they were carried out 7789 infiltrations paravertebral for affections of the rachis, In the unit surgical low fluoroscopic they were carried out blockades neurolytic using the ozone like half of contrast (107 patients), besides 1624 disklysis procedures with ozone, with 78% of excellent results; procedures like infiltration epidural, sacroiliac joint and spinal facets were treated with ozone (144 patients) with 68% good results. The main immediate complication is the blackout, the other ones obey errors in the administration technique. The hernias dial them they represent 10% of the assisted cases, and 40% they represent to other spinal illnesses. The diagnostic technology of studies includes the RMN, TAC, electrodiagnostic studies and physical exam. The future of the technical pain interventionists one has to base on the efforts of studies of results validated by the scientific evidence.

Key: PL18 ENG

Type of Presentation: Oral Presentation

Key words: ozone, pain

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Conferencia Plenaria

Aplicación del ozono en el tratamiento intervencionista del dolor crónico. Experiencia cubana.

Carlos Amador Cobas Santos

- Jefe de Servicio. Unidad intervencionista de dolor, cuidados paliativos y del departamento de ozonoterapia. Profesor Asistente. Hospital Hermanos Ameijeiras

La disciplina del estudio y tratamiento del dolor está relacionado con la aplicación de las técnicas intervencionistas de dolor, procedimiento mínimamente invasivo de diagnostico y tratamiento. Los principales procedimientos intervencionistas de ozonoterapia realizados en el Hospital Hermanos Ameijeiras de Cuba son los bloqueos peridurales, discolisis, bloqueos radiculares e infiltraciones de las articulaciones y nervios periféricos. En 3 años se atendieron en consulta 15 285 pacientes, con un promedio por consulta de 23 pacientes, al 19,1 % se le realizaron procedimientos, y de ellos el 5,6 % fue con ozono, sobresalieron las infiltraciones intrarticulares de rodilla y hombro; se realizaron 7 789 infiltraciones paravertebrales para afecciones del raquis. En la unidad quirúrgica bajo fluoroscopia se realizaron bloqueos neurolíticos utilizando el ozono como medio de contraste (107 pacientes), además de 1 624 procedimientos de discolisis con ozono, con un 78 % de resultados excelentes; procederes como infiltración peridural, articulación sacroileaca y facetas espinales fueron tratados con ozono (144 pacientes) con un 68% buenos resultados. La principal complicación inmediata es la lipotimia, las demás obedecen a errores en la técnica de administración. Las hernias discales representan el 10% de los casos atendidos, y un 40 % representan a otras enfermedades espinales. La tecnología diagnóstica de estudios incluye la RMN, TAC, estudios neurofisiológicas y examen físico. El futuro de las técnicas intervencionistas de dolor se tiene que basar en los esfuerzos de estudios de resultados validados por la evidencia científica.

Key: PL18 SPA

Tipo de Presentación: Oral

Palabras clave: ozono, dolor

Plenary lecture. Case Report.

Legg-Calvé-Perthes disease. A Case Study

Dr. Ofir J. Betancourt B.

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Legg-Calvé-Perthes disease (LCPD) is a necrosis of the femoral epiphysis that occurs during the growth stage and evolves in consecutive stages with varying degrees of intensity and extension. It is self-limited, caused by ischemia of unknown origin, and involves a complex course, from the time of diagnosis to the decision of providing treatment. The latter needs to be understood for it to be effective and delay or prevent the occurrence of the pain resulting from the arthrosis that may occur as a sequela. This is a 7-year-old boy who is brought to consultation by their parents with a hip pain and pain when walking. It is therefore performed a physical examination and radiographs (panoramic radiograph of the spine, pelvis bone AP, both coxofemoral), found alterations in the left femoral head, with remodeling of the same, and signal changes in femoral neck. Once diagnosed, Legg-Calve-Perthes disease, is made a treatment plan with ozone in order to ensure the safety and efficacy of ozone applied rectally, intraarticular and extraarticular, based on one of the beneficial properties of gas "improves circulation and release of oxygen from t the blood." The protocol consisted of the application of 20 sessions of rectal ozone in doses of 120 cc with a concentration of 20 mcg and 4 sessions of ozone Intra / extra-articular dose of 5 cc at a concentration of10 mcg. The duration of treatment was 3 months. The therapeutic dosages are divided according to the effect of three (3) types: low (immunomodulation), average doses (stimulatory effect), high dose (immunosuppressive effects). Once the treatment was concluded obtaining images by Rx show a marked improvement in the femoral head, the patient is asymptomatic (without pain or limping) and he can do moderate sports activities. With the application of ozone rectally, intraarticular and extraarticular no adverse reactions, on the contrary, showed that the treatment is effective in these cases, due to improvement of symptoms and radiological imaging of the patient.

Key: PL19 ENG

Tipo de Presentación: Oral

Key words: hip, necrosis, avascular necrosis, osteotomy, ischemia.

Conferencia Plenaria. Reporte de Caso.

Enfermedad de Legg-Calvé-Perthes. Reporte de un Caso

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La enfermedad de Legg-Calvé-Perthes (ELCP) es una necrosis de la epífisis femoral en la época de crecimiento, que evoluciona por etapas consecutivas con diferentes grados de intensidad y extensión, por sí misma limitada, causada por isquemia de origen desconocido con evolución compleja, desde su diagnóstico hasta la decisión de tratamiento, que requiere ser entendido, para que sea eficiente y retarde o evite la aparición de dolor causado por la artrosis que puede dejar como secuela.Se trata de un niño de 7 años de edad, quien es llevado a consulta por sus padres por presentar dolor intenso en la cadera y dolor al caminar. Por consiguiente se realizo un examen físico y estudio radiológico (Rx Panorámica de la columna vertebral, Pelvis ósea AP, ambas coxofemorales), encontrando alteración en la cabeza femoral izquierda, con remodelación de la misma, así como cambios en la señal del cuello femoral. Una vez diagnosticada la enfermedad de Legg-Calvé-Perthes, se realiza un plan de tratamiento con ozono, con el objetivo de comprobar la seguridad y eficacia del ozono aplicado vía rectal, intraarticular y extraarticular, basándose en una de las propiedades benéficas del gas “Mejora la circulación y la liberación del oxigeno de la sangre”. El protocolo consistió en la aplicación de 20 sesiones de ozono rectal en dosis de 20 µg/mL x 120 mL y 4 sesiones de ozono Intraarticular / Extraarticular en dosis 10 µg/mL x 5 mL. La duración del tratamiento fue de 3 meses aproximadamente. Una vez concluido el tratamiento se realizó Rx, obteniendo imágenes que evidencian una notoria mejoría de la cabeza del fémur, concluidas las consultas de control clínico el paciente se encuentra asintomático (sin dolor, sin cojera) realizando actividades deportivas moderadas. Con la aplicación de la ozonoterapia vía rectal, intraarticular y extraarticular no se presentaron reacciones adversas, por el contrario se evidenció que el tratamiento es eficaz en estos casos, debido a la mejoría de los síntomas e imágenes radiológicas del paciente.

Key: PL19 SPA

Tipo de Presentación: Oral

Palabras clave: cadera, necrosis, fémur, necrosis avascular, osteotomía, isquemia.

Plenary lecture. Review lecture.

Inflammatory Mechanism Involved in Acute Disc Herniation (Hydrated Nucleus Pulpous). A Review.

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Disc herniation (hydrated nucleus pulpous) occurs when nucleus pulpous is exposed to the systemic circulation due to the strain of the annulus. This produces an inflammation process which involves macrophages infiltration promoting activation and differentiation of lymphocytes and its products. Herniated discs produce interleukins 4, 6, 12 and interferon γ. This activates of Th1 lymphocytes. In symptomatic radiculophaty, interleukin 6 can induce allodynia mediated by prostaglandin E2. Macrophages produces interleukin 12, which stimulate T cells differentiation in Th1 lymphocytes. Th1 differentiated and activated produces interferon γ and stimulate the natural killer cells activity. Interferon γ is antiviral and antitumor molecule, and recluses macrophages in the inflammation site, promoting the adhesion, migration and activation of lysosomes. The interferon expression on symptomatic herniated discs, represents activation of immune response against immune privileged material. Th17 lymphocytes and interleukine 17 take part in disc herniation. This interleukin promotes oxide nitric synthase activity and ciclooxigenase 2. This inflammatory mechanism explains nucleus pulpous resorption and peripheral neuropathy that is manifested on sciatica.

Key: PL20 ENG

Type of Presentation: Oral Presentation

Key words: disc herniation, interleukin 17, Th1 lymphocytes, interferon γ, nucleus pulpous.

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Conferencia Plenaria. Actualización bibliográfica.

Mecanismos Inflamatorios Involucrados en la Hernia de Disco a Núcleo Pulposo Hidratado (Hernia de Disco Aguda)

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La hernia discal con el núcleo pulposo hidratado consiste en la exposición del núcleo pulposo a la circulación sistémica, porque se desgarra el anillo fibroso. Esto produce un proceso inflamatorio que involucra la infiltración de macrófagos que promueven la activación y diferenciación de linfocitos y la liberación de mediadores, que reclutan y activan macrófagos potenciando el mecanismo inflamatorio local. En los discos herniados, hay expresión de interleucinas 4, 6, 12, y de interferón γ, lo que sugiere la activación de los linfocitos Th1. En la radiculopatía sintomática, la interleuquina 6 puede inducir la alodinia mediada por prostaglandina E2. Los macrófagos también producen interleucina 12, que estimula la diferenciación de los linfocitos T en el linaje Th1, activando los Th1 diferenciados, hacia la producción de interferón γ y aumentando la actividad citotóxica de las células *natural killer*. Los linfocitos Th1 activados producen interferón γ, que tiene un papel específico antiviral y antitumoral, pero además reclutan macrófagos en el sitio de inflamación promoviendo adhesión, migración y activación de lisosomas. La expresión de interferón γ en los discos herniados no contenidos o sintomáticos, representa la activación de la respuesta inmune contra el material inmuno-privilegiado. En la hernia discal también participa la vía alternativa de los linfocitos Th17 y de la interleucina 17. La interleucina 17 promueve la regulación de la Óxido Nítrico Sintasa y la ciclooxigenasa 2. Este mecanismo inflamatorio explica la reabsorción del núcleo pulposo y la neuropatía periférica inflamatoria que se manifiestan en la ciatalgia.

Key: PL20 SPA

Tipo de participación: Presentación oral.

Palabras clave: hernia de disco, interleuquina 17, linfocitos Th1, interferón γ, núcleo pulposo

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Plenary lecture

Clinical experience in the treatment of Epidemic Hemorrhagic Conjunctivitis with OLEOZON collyrium

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Epidemic Hemorrhagic Conjunctivitis (EHC) is a self-limited, conjunctiva inflammation of viral etiology which affects all ages and takes place in epidemic form. Its main symptoms are sensation of foreign bodies, lacrimation, photosensitivity, general discomfort and pain. Its critical signs are subconjunctival hemorrhages, follicular reaction and pre-auricular adenopathy. Also, serous secretion, chemosis, superficial punctate keratitis and palpebral ptosis are observed. Taking into account the broad spectrum germicide power of OLEOZON (ozonized sunflower oil), as well as its degree of anti-inflammatory character, the aim of this study was to evaluate the effectiveness of this medication in its collyrium form for the treatment of EHC. In ¨Dr. Salvador Allende¨ Clinical Hospital, 20 patients were treated with EHC in October, 2009. Twelve of them received treatment with OLEOZON collyrium (one drop twice per day) and 8, making up the control group, received conventional treatment (cold compresses, non steroidal anti-inflammatory drugs, yodoxuridine in collyrium or recombinant alfa-2b interferon). All patients treated with OLEOZON underwent a fast evolution toward recovery. In 72 h, they showed signs of great improvement and in 1 week they were totally cured. No patients presented complications. In the control group the evolution was more prolonged, mainly in patients showing complications (3 with keratitis). Treatment of EHC with OLEOZON collyrium provides with very positive results in this disease.

Key: PL21 ENG

Type of Presentation: Oral presentation

Keywords: ozone, Epidemic Hemorrhagic Conjunctivitis, conjunctiva, OLEOZON, ozonized oils.

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Conferencia Plenaria

Experiencia Clínica en el Tratamiento de la Conjuntivitis Hemorrágica Epidémica con Oleozon Colirio

Mirta Copello Noblet[1], Silvia Menéndez[2], Adriana Schwartz Tapia[3]

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La Conjuntivitis Hemorrágica Epidémica (CHE) es una inflamación conjuntival de etiología viral, autolimitada que afecta a todas las edades y cursa de forma epidémica. Sus síntomas fundamentales son sensación de cuerpo extraño, lagrimeo, fotosensibilidad, malestar general y dolor. Sus signos críticos son hemorragias subconjuntivales, reacción folicular y adenopatías pre auriculares. También se observa secreción serosa, quémosis, queratitis superficial punteada y ptosis palpebral. Teniendo en cuenta el poder germicida de amplio espectro del OLEOZON (aceite de girasol ozonizado), así como su cierto carácter antiinflamatorio, el objetivo de este trabajo fue evaluar la efectividad de este medicamento en su forma de colirio para el tratamiento de la CHE. En el Hospital Docente ¨Dr Salvador Allende¨ fueron atendidos 20 pacientes con CHE en Octubre del 2009. De ellos 12 recibieron tratamiento con OLEOZON colirio (1 gota dos veces al día) y 8 conformaron el grupo control los cuales recibieron tratamiento convencional (fomentos fríos, antinflamatorios no esteroideos, yodoxuridina en colirio ó interferón alfa-2b recombinante). Todos los pacientes tratados con OLEOZON tuvieron una rápida evolución hacia la curación. A las 72 h mostraban signos de gran mejoría y a la semana estaban totalmente curados. Ninguno de los pacientes presentó complicaciones. En el grupo control la evolución fue más prolongada, fundamentalmente en los pacientes que presentaron complicaciones (3 con queratitis). El tratamiento de la CHE con OLEOZON colirio brinda resultados muy positivos en esta patología.

Key: PL21 SPA

Tipo de participación: Presentación oral.

Palabras clave: ozone, conjunctivitis hemorrágica epidémica, conjunctiva, Oleozon, aceites ozonizados

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Plenary lecture. Case report.

Ozone Therapy Cured a Double External Fistula.

Heinz Konrad

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A 42 year old man suffered a sternotomy for coronary bypass operation. On the 10th post-operative day he opened and drained a large abscess emerging from his sternum. He was sent home with two orifices on his skin / chest / sternum, each permanently draining large amounts of pus. The use of ozone therapy (OT) to treat and cure fistulae has been known since the early 1970 decade, when Prof. Dr. Hans Wolff, one of the fathers of modern OT, successfully approached different fistulae locally and systemically with OT. Some conditions must be satisfied to justify OT for fistula treatment: a) the fistula should be chronic; b) there should be no foreign material in the fistula area, especially orthopedic synthesis material, plaques, screws, pins, etc., or even sequestered bone material; c) the fistula must have at least one external orifice to permit local access for OT; d) "conventional" treatments should already have proven unsuccessful. The fistula must be approached externally and internally (systemically) by ozone therapy. The external approach aims first the sterilization and later the healing of the fistula. The systemic approach, via major auto-hemotherapy with ozone, aims to improve the patient's immune response and general condition. The external approach, with ozone insufflations into the fistula, must be done daily in the beginning and may be done 2 to 3 times per week when the fistula seems to be sterile. The sessions of major auto-hemotherapy should be given twice weekly throughout the whole treatment.

Key: PL22 ENG

Type of Presentation: Oral Presentation

Key words: ozone, fistula, osteomyelitis, chronic infection

Plenary lecture. Project research in course.

Biofilms in Oral Infection Preventing with Ozone Therapy

Dra. Nora Bazzano Mastelli ,[1,2] Dra. Gloria Vitriol,[1] Dr Raul Moggiano.[2]

1 AEPROMO, 2 AMAOO.

The natural form of bacterial growth in the oral cavity, is named Biofilm. It causes caries, periodontal diseases and either inside the canal (endodontic infection), periimplantitis and much more, like in the rest of the body, and develops a higher resistance to antimicrobial agents. Therefore, studies should be addressed to show ozone therapy after prophylaxis, penetrating into biofilm and producing enough bactericide action, (when it exist) or in preventing biofilm development. It will be used like: gas, ozonate oil or ozonate water. At present, in this field we can only find studies that show the efficiency of chlorhexidine mouthrinses and of those with essential oils, but short time action. With ozone therapy, Biofilm, can be easily disrupted in instants. In order to achieve the best results with the use of the ozone therapy treatment in oral field it is very important to do: endodontics procedures, the profilaxis, the root planning and the scaling and to use at home clorhexidine and brushing as well O_3/Oil or O_3/water.

Key: PL23 ENG

Type of Presentation: Oral Presentation

Key words: biofilm, caries, periodontal disease, endodontic treatment, ozone therapy, chorhexidine, higher microbiol resistence.

Conferencia Plenaria. Poyecto de investigación.

Prevención de la Formación de Biofilms Oral con la Ozono Terapia

Dra. Nora Bazzano Mastelli ,[1,2] Dra. Gloria Vitriol,[1] Dr Raul Moggiano.[2]

1 AEPROMO, 2 AMAOO.

El crecimiento de bacterias en la cavidad oral, es llamado biopelicula. El mismo causa caries, enfermedad periodontal, infecciones endodonticas, periimplantitis y muchas otras enfermedades igual que en el resto del cuerpo y ha ido desarrollando una gran resistencia a los agentes antimicrobianos. Diferentes estudios han mostrado que la ozonoterapia después de una correcta profilaxis, penetra en la biopelícula produciendo suficiente acción bactericida cuando esta biopelícula está formada o previniéndola. En sus formas de uso: como gas, aceite ozonizado o agua ozonizada. Hasta el presente en este campo, solo se relatan estudios que muestra eficiencia de la clorhexidina y aceites esenciales como colutorios pero de corta duración. Con ozonoterapia la biopelícula es fácilmente destruida en instantes, para de obtener mejores resultados con la ozonoterapia oral, es muy importante realizar todos los procedimientos: endodónticos, periodontales: profilaxis, raspado y alisado, y en el hogar cepillado y colutorios de clorhexidina además del aceite ozonizado o agua ozonizada.

Key: PL23 SPA

Tipo de participación: Presentación oral.

Palabras clave: caries, enfermedad periodontal, endodoncia, ozonoterapia, clorhexidina, alta resistencia microbiana

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Plenary lecture

Advanced Clinical Procedures for Remediation Head and Neck Infection Utilizing Oxygen/Ozone Therapy. Part 1 and 2

Phill Mollica and Robert Harris

American College of Integrative Medicine and Dentistry

Remediation of Head and Neck Infection is a complex anatomical, physiologic and biochemical process. Mixed multifocal infection of the head and neck dictates utilization of essential neurovascular pathways for the infusion of oxygen/ozone to have maximum effect. Therapeutic infective remediation of the head and neck must be approached in a comprehensive integrative fashion. In addition sequencing of infusion procedures is essential for induction of the patient's own physiology and biochemistry to up-regulate and support the healing process. This two-part presentation will review current procedures and guidelines utilized therapeutically on patients.

Key: PL24 ENG PL25 ENG

Type of Presentation: Oral Presentation

Key words: ozone, hear, neck, remediation

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Plenary lecture

Modulation of Oxidative Stress by Ozone Therapy: Innovation and Harmony in the Integrated Treatment of Skin Malignancies

José Carlos Jiménez Ortega

Departamento de Biología Molecular Médico Aplicada. Centro Médico Nacional de Biología Molecular A.C

To evaluate the efficacy of ozone therapy in patients with skin malignancies unresponsive to chemotherapy and /or conventional radiation therapy. In order to achieve this, the following aspects were taken into account: 1) To evaluate by resistance, impedance and reactance, the changes in cell membranes during the application of major autohemotherapy with ozone. 2) Quantify and assess whether major autohemotherapy in the therapeutic doses used, causes a negative change in the level of cellular oxidative stress in patients. 3) Demonstrate by photo monitoring, the morphological changes undergone by the tumor masses treated with ozone therapy. Prior to treatment with ozone therapy the patients were evaluated by medical staff specialized in oncology and medical radiotherapy. Those patients who showed resistance to treatment with radiotherapy were sent to the Medical Applied Molecular Biology Unit to be treated with ozone therapy. In such patients resistance, impedance, reactance and phase angle before, during and after treatment with ozone therapy were measured to determine the level of oxidative stress and cell behavior. Medical ozone treatment was performed by major autohemotherapy and ozone bag for 15 days. Finally, patients went back to the Oncology Unit to continue their conventional medical treatment. The ozone generator used was the OL80A/DL. To measure resistance, impedance, reactance and phase angle, the equipment used was QUANTUM IV. The materials used during the treatment with ozone therapy were those recommended by the Mexican Association of Ozone Therapy. Studies of resistance, impedance and reactance, showed that major autohemotherapy with ozone significantly change the behavior of cell membranes. These changes did not significantly modify the phase angle that was used to indirectly measure the levels of cellular oxidative stress. Meanwhile, the tumor presented a significant cell damage accompanied by significant morphological changes. The application of major autohemotherapy with ozone significantly changed the conditions of the cell membrane. However, these changes did not affect the oxidative stress levels of the patient. This finding was promising since the manipulation of oxidative stress during the pro-oxidant therapies should not be changed significantly to reach its therapeutic power. Finally, the photographic monitoring of the tumor mass showed a significant deterioration in it. Summarizing, we can state that ozone therapy can be an interesting therapeutic alternative in the integrated treatment of patients with skin malignancies resistant to conventional treatments.

Key: PL26 ENG

Type of Presentation: Oral Presentation

Key words: Oxidative Stress, Ozone therapy, Skin malignancies (neoplasm)

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Plenary lecture

Blood-Borne and Sexually Transmitted Diseases Managed with Ozone Therapy

Héctor Enrique Velázquez González

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One of the major health problems of the last 20 years is the management of Blood-Borne and Sexually Transmitted Diseases, particularly the Human Immunodeficiency virus (HIV,1981) and hepatitis C virus (HCV,1987). Is the use of antiretroviral the only method of control? The use of Ozone-therapy both rectal combined with Ultraviolet light and venous (Fotox), has allowed through 8 years an appropriate outcome for an important number of patients that have maintained their health quality even without the use of antiviral. The key is not just the Ozone, it is also reducing or avoiding high risk behaviors, maintaining a healthy lifestyle, good nutrition, exercise, but after all a positive attitude and without the fear these type of infections generate. The experience focuses on 10 Fotox sessions combined with rectal in accumulative concentrations from 15 μg/mL to 40 μg/mL, repeating in 5 weeks, with a frequency of every 6 months, the values of viral count for both conditions have a significant change in addition to the enzymes that are studied to evaluate the illness control. Continuous evaluation and a multidisciplinary approach are the foundation for success.

Key: PL27 ENG

Type of Presentation: Oral Presentation

Key words: ozone, Sexually Transmitted Diseases, HIV, VHC

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Conferencia Plenaria

Enfermedades de Transmisión Sexual y por Sangre Manejados con Ozonoterapia

Héctor Enrique Velázquez González

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Uno de los grandes problemas de salud en los últimos 20 años es el manejo de enfermedades de transmisión sexual y por sangre, en especial por el Virus de Inmunodeficiencia Humana (VIH, 1981) y el Virus de la hepatitis C (VHC, 1987. Es el manejo antirretroviral la única forma de control? El manejo mediante ozonoterapia tanto por vía rectal como la combinación de luz ultravioleta y venosa (Fotox), ha permitido a lo largo de 8 años un manejo adecuado en un número importante de pacientes que han mantenido su calidad de vida aun sin el empleo de antivirales. La clave no es únicamente el manejo con ozono, sino reducir o evitar las conductas de alto riesgo, llevar una vida sana que incluya buena alimentación y ejercicio pero ante todo una actitud positiva y sin el miedo que ha generado el padecer estas infecciones. La experiencia se centra en el manejo de 10 sesiones de Fotox combinado con ozonoterapia rectal en concentraciones acumulativas de 15 µg/mL a 40 µg/mL, repetidas en 5 semanas y con una frecuencia de 6 meses, los valores de carga viral para ambos padecimientos tienen un cambio significativo además de las enzimas que se estudian para valorar el control de la enfermedad. Una valoración continua y un manejo multidisciplinario son la base del éxito.

Key: PL27 SPA

Tipo de Presentación: Oral

Palabras calve: ozono, Enfermedades de transmisión sexual, HIV, VHC

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Plenary lecture

Prolozone: Regenerating Joints and Eliminating Pain

Frank A. Shallenberger, MD, HMD, ABAAM

President, American Academy of Ozonotherapy

Prolozone is a regenerative and pain relieving procedure that involves the proliferative principles of prolotherapy, the cell membrane repolarizing principles of neural therapy, the stem cell stimulation of homeopathic therapy, and the metabolic principles of ozone therapy. The area being treated is first injected with a 10% solution of glucose combined with procaine, B-vitamins, anti-inflammatories, homeopathics, and minerals. A second injection of ozone is then applied. Because ozone is a gas, it extensively distributes throughout tissues. This allows for the treatment of a very wide area with a minimal number of injections. Prolozone is applicable and usually effective in any clinical situation in which there is pain and/or ligament, cartilage, or bone damage.

Key: PL28 ENG

Type of Presentation: Oral Presentation

Key words: ozone, prolozone, pain, tissue regeneration, stem cells

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Plenary lecture

Treatment of Increased Intestinal Wall Permeability (Leaky Gut) and the Associated Immune System Dysfunctions with Colonic Hydrotherapy Followed by Rectal Insufflations and Minor Autohemotherapy with Oxygen- Ozone.

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Autoimmune diseases when considered as a group are the third cause of sickness and death worldwide nowadays. Among the causes of autoimmunity, genetic predisposition, immune regulation abnormalities and environmental factors are considered the key elements for developing such diseases. One of the most relevant environmental factors is the disruption of the intestinal wall, a process known as increased intestinal wall permeability or leaky gut, where the contents of the intestinal lumen penetrate the gut barrier, breaching through tight junctions and desmosomes that glue intestinal wall cells together, and exposing proteins of dietary origin to the immune system within the intestinal wall. This process is manifested first as food allergies or intolerance, but as it goes on, the increased permeability in the gut allows diet proteins to get into the bloodstream and generate antibodies against our own cells. More than 40 autoimmune diseases have been traced back to predictive auto-antibodies that can be present for more than 7 years before the onset of autoimmunity symptoms and the diagnosis of a specific condition, being the most prevalent ones arthritis, thyroiditis, type I diabetes and celiac disease. Colonic hydrotherapy –the administration of temperature and pressure controlled water into the colon-, is a very effective therapy aimed at the mechanical removal of immune complexes with dietary proteins nested in the intestinal wall, but the abnormalities in the regulation of the local and systemic immune system are harder to treat. Oxygen-ozone gas mixture administered by rectal insufflation after the colonic hydrotherapy provides the means to effectively re-establish a healthy immune response in the gut, since ozone has a well-known dose-dependent suppressing or stimulating effect upon the immune system. Minor autohemotherapy with oxygen-ozone at a high dose (40 µg) has been effectively used as a means to treat allergies and other immune system abnormalities. In this paper we review a series of 20 cases of leaky gut treated in our clinic with a series of 3 to 5 colonic hydrotherapies followed by 20 to 30 rectal insufflations of oxygen-ozone at a concentration ranging from 10 to 35 µg and a volume ranging from 100 to 180 mL. All the patients also received weekly minor autohemotherapies (4 to 6) with 20 to 40 µg of ozone. 6 of our patients suffered from chronic colitis with abdominal distention, spastic pain and constipation; 3 of them were diagnosed with irritable bowel syndrome; 4 suffered from food intolerances (lactose, seafood, wheat); 5 of these patients showed signs of subclinical hypothyroidism confirmed by lab, and the other two had psoriasis. All of the patients had also electrical evidence –as established by bioimpedance, ESTECK Complex Scanner, LD Technologies, USA- of digestive dysfunction (food allergies or intolerance), thyroid gland electric imbalance and/or elevated function of the immune system. After the treatment, 15 of the patients had cleared out the digestive dysfunction and the immune system abnormalities both clinically and electrically, 2 of them persisted with digestive dysfunction although they reduced the signs and symptoms of comorbidities and 3 of the patients persisted with both digestive dysfunction and comorbidities. The success rate of the treatment regime (75 %) makes the administration of oxygen-ozone a very effective therapy to normalize the immune system abnormalities both systemically and in the gut, providing a innovative solution to the increasing problem of intestinal wall permeability and the associated autoimmune abnormalities.

Key: PL29 ENG
Type of Presentation: Oral Presentation
Key words: Oxygen-ozone, rectal insufflations, minor autohemotherapy, increased intestinal wall permeability, leaky gut, autoimmunity.

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Plenary lecture

Clarifying Oxidative Stress and Antioxidant Potantials Assays

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Oxidative Stress is a physilogical process that might be harmfull in living organisms. Ozone is the third strongest oxidant agent (E°=+2.076 V), after fluorine and Persulphate. Medical Ozone which is mixture of very low dose ozone in oxygen can be used as a medical drug in terms of ozone therapy. Oxidation in biological fluids especially in blood that is generated by medical ozone gas results ROS (Reactive Oxygen Species) and LOP (Lipid Oxidation Products) formation. Anti-Oxidants present in blood and other tissues help to prevent negative effect of Oxidative Stress. The balance between oxidation and anti-oxidants is the fundamental for the life. To evaluate effects of ozone therapy, to determine oxidative stress levels and antioxidant potantials might be helpful. To determine those levels several assays can be applied.

Key: PL30 ENG

Type of Presentation: Oral Presentation

Key words: ozone, oxidative stress, antioxidants, Ozone Therapy, ROS, LOP

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Plenary lecture

Ozonetherapy in the Spinal Disc Herniation

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The spinal disc herniation represents a 5 % of the spine pathology being the main cause of low back pain or lumbociatalgia. The objective of this study is to demonstrate the therapeutic effectiveness of paravertebral ozone therapy in cases of herniated disks in the lumbar sacral region. A total of 60 patients were collected, between 20-70 years old, diagnosed with Lumbar Disk Herniation at level L4-L5 and L5-S1; with clinically signs of the disease. Paravertebral muscle infiltrations with medical ozone were done at a concentration of 20 µg/ml in volumes of 10 ml, on both sides of the lumbar sacral region; depending on the location of the root disk conflict. This procedure was done one to two times per week for 10 sessions. The Score MacNab modified was used to determine the therapeutic effect. The scores were: 36 patients reported excellent therapeutic results (60 %), 17 patients had good results (28 %) and 7 had a bad response (12 %). The treatment of spinal disc herniation with ozone therapy is an effective method (88% of cases) and it is minimally invasive for the pathology resolution.

Key: PL31 ENG

Type of Presentation: Oral Presentation

Key words: Disk Herniation, Paravertebral ozone therapy, Lumbar sacral region

Conferencia Plenaria

Ozonoterapia en la Hernias del Disco

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Las hernias de disco constituyen el 5 % de la patología espinal y pueden ser una causa de dolor lumbar o lumbociatalgia. El objetivo es demostrar la efectividad terapéutica de la ozonoterapia paravertebral en casos de hernias de disco en región lumbo sacra. Se recopilaron un total de 60 pacientes (40 sexo masculino y 20 sexo femenino), edades comprendidas entre 20 a 70 años, con diagnóstico de Hernias Discales Lumbares a nivel L4-L5 y L5-S1, acompañadas de manifestaciones clínicas típicas de esta afección. Se efectuaron infiltraciones musculares paravertebrales con Ozono a una concentración de 20 µg/mL en volúmenes de 10 mL bilateralmente en localizaciones variables en la región lumbo sacra dependiendo de la ubicación del conflicto disco radicular, una o dos veces por semana por 10 sesiones. Para la determinación del efecto terapéutico se utilizó el Score MacNab modificado. Las calificaciones obtenidas fueron: 36 pacientes reportan excelente resultado terapéutico (60 %), 17 pacientes buen resultado (28 %) y 7 con nula respuesta (12 %). El tratamiento de las hernias discales lumbares con ozonoterapia resulta ser un método efectivo (88 %) y mínimamente invasivo para el tratamiento de esta patología, brindando a los pacientes una resolución de la sintomatología.

Key: PL31 SPA

Tipo de participación: Presentación oral.

Palabras clave: Hernias del Disco, Ozono paravertebral, Región lumbo sacra

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Plenary lecture

Advances in the Regulation of Ozonetherapy and Obstacles Faced

Roberto Quintero Mariño

Legal Advisor of the: Spanish Association of Medical Professionals in Ozone Therapy (AEPROMO, www.aepromo.org), International Medical Ozone Federation (IMEOF, www.imeof.org) and the International Scientific Committee of Ozone Therapy (ISCO3) www.isco3.org

Despite the time elapsed since the discovery of ozone for medical purposes, it still can't find a positive presence in the laws or regulations of the countries. Our research aims to find where ozone therapy is placed or may be placed within the legal structure of the countries where it is widely applied. It is the first time that this kind of research has been conducted. The first results of the research were published in 2008 and since then two updates have been done, bearing in mind what has been obtained in other countries, the direct interventions that we have done in Spain so it would be regularized, and the legal support that we have granted to other countries. The ozonetherapist is obligated to have the necessary medical knowledge to practice ozonetherapy. In the same way it would be very advisable that she/he knew what legal status the therapy has in the place where she/he practice it, what are the legal prerequisites asked by the health authorities and what legal information she/he is required to provide to the patients before starting the ozonetherapy sessions. If there are no specific regularizations, she/he should know the norms that should be applied. It would be convenient that the ozonetherapist take a more proactive role in the regularization process with the interest that soon rather than later it were regularized, in case it has not been it. To do it, it would be necessary to know the most basic points that a regularization request must have to be accepted by the health authorities. To know what countries have regularized ozonetherapy, and in which way that information may serve as support and reference in her/his own country. To be aware that the regularization is a complex process, obstacles are numerous, difficulties are coming from different fronts, and that the ozonetherapy is still not accepted by some medical sectors. Although the presentation is much limited by the granted time, it tries to give initial answers to the raised questions. In the same way that the professional is convinced that the medical knowledge is indispensable, she/he must know that the legal subject is equally important in order that ozonetherapy may occupy the place that corresponds to it.

Key: PL32 ENG

Type of Presentation: Oral Presentation

Key words: ozone regulation, ozone therapy, legal requisites

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Conferencia Plenaria

Avances en la Regularización de la Ozonoterapia y Obstáculos Encontrados

Roberto Quintero Mariño

Asesor Legal de la Asociación Española de Profesionales Médicos en Ozonoterapia (AEPROMO, www.aepromo.org), International Medical Ozone Federation (IMEOF, www.imeof.org) and the International Scientific Committee of Ozone Therapy (ISCO3) www.isco3.org

La presentación está basada en la investigación que en materia legal están realizando Adriana Schwartz Tapia (médico) Presidente de AEPROMO e IMEOF, y Secretaria de ISCO3; y Roberto Quintero Mariño (abogado) Asesor legal de AEPROMO, IMEOF e ISCO3. A pesar del tiempo pasado desde el descubrimiento del ozono con fines médicos, éste no encuentra aún una presencia positiva en las leyes o las regulaciones de los países. El objetivo de la investigación fue identificar dónde está o podría estar colocada la ozonoterapia en la estructura legal de los países donde es ampliamente aplicada. Es la primera vez que esta clase de investigación está siendo realizada. Los primeros resultados fueron publicados en el 2008 y desde entonces se han hecho dos actualizaciones, teniendo en cuenta lo alcanzado en otros países, las intervenciones directas que hemos realizado para que la ozonoterapia sea regularizada en España y los apoyos legales que hemos brindado a otros países. El ozonoterapeuta está obligado a tener los conocimientos médicos necesarios para practicar la ozonoterapia. Igualmente sería muy conveniente que conociera cuál es el estatus jurídico que la terapia tiene en el lugar donde la práctica, cuáles son los requisitos legales exigidos por las autoridades, qué información legal está obligado a brindarle a sus pacientes antes de iniciar las sesiones de ozonoterapia. Si no hay regularizaciones específicas, debería conocer las normas que pudieran aplicarse. Convendría que se involucrara para que más pronto que tarde se regularizara, en caso de que no lo haya sido. Para ello sería necesario que conociera los criterios de base que una petición de regularización debe tener para que sea aceptada. Saber qué países han regularizado la ozonoterapia; y en qué forma esos datos objetivos podrían servirle de apoyo y referencia en su propio país. Ser consciente que la regularización es un proceso complejo, los obstáculos son numerosos, las dificultades provienen de diferentes frentes, y que algún sector médico no acepta la ozonoterapia. La presentación, pretende dar respuestas iniciales a las interrogantes planteados para que el profesional se convenza de que así como el conocimiento médico es indispensable, el tema legal debe adquirir igualmente importancia para que la ozonoterapia ocupe el lugar que le debe corresponder.

Key: PL32 SPA

Tipo de participación: Presentación oral.

Key words: regulaciones legales sobre ozonoterapia, ozonoterapia, estatus legal

Poster

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Poster

Biochemical Aspects of Ozone Therapy Using in Dermatology

Bitkina O.A., Niculin N.K., Philippova L.I., Panteleeva G.A., Kontorchikova K.N., Kopytova T.V.

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Wide spectrum of therapeutic activity of ozone therapy, its experience in different medical fields has future perspectives for ozone therapy using in dermatovenereology. We investigate two clinical groups. First group consists of 103 patients suffered from severe forms of acnae. 56 patients had been treated with local injections of ozone-oxygen mixtures, 47 patients were used as comparison group with traditional therapy such as oral and local antibiotics and external retinoids. Before and after therapy complex biochemical investigation was determined (diene conjugates (DC), malone dialdehyde (MDA), total antioxidant plasma activity (APA), antioxidant enzyme superoxido dismutase (SOD), parameters of oxidative protein modification (OPM), glycose aminoglycans (GAG), oxyproline (OP) and its free and connective fractions). Second group concludes 122 rosacea patients. 80 patients had been treated with local injections of ozone-oxygen mixtures, 42 patients were used as comparison group with traditional therapy such as oral and local metronidazol. Before and after therapy similar biochemical assays were determined.

After complex clinic and laboratory monitoring we determined participation of lipoperoxidation, oxidative protein modification and antioxidan system in acnae pathogenesis. Initial level of total, free and connective OP in serum was high than in control group. GAG level in acnae patients also was high. As a result of complex therapy with ozone using disappearance of clinical symptoms of acnae was in 3.6 %, significant improvement – 83.9 % and improvement – 12.5 %. Ozone therapy leads to restoration of dynamic balance between pro- and antioxidative systems, decrement of total and free OP and GAG level. On catamnesis data prolonged clinical effect was in 62.5 % of acnae patients. In severe variants of this disease in combination with low activity of SOD, total APA we would recommend returned (2-4 times) courses of ozone therapy with intervals in 3-4 months. During rosacea patients biochemical investigation Initial level of total, free and connective oxyproline in serum was high than in control group. Glycose-aminoglicanes level in rosacea patients also was high. As a result of complex therapy with ozone using disappearance of clinical symptoms of rosacea was in 10 %, significant improvement – 76.25 % and improvement – 13.75 %. Complex determination of diene conjugates, malone dialdehyde, oxidative protein peroxidation, superoxide dismutase and total antioxidant plasma activity is high informative laboratory control method in ozone therapy of acnae and rosacea.

According complex clinical and biochemical investigations in severe variants of acnae and rosacea we would recommend 2-4 courses of ozone therapy with intervals of 3-4 months. We suppose that ozone treatment has immune modulation ozone activity, microcirculation improvement action, correction of tissue hypoxia, antioxidant system activation, anti-inflammatory effect.

Key: PO1 ENG

Type of presentation: Poster.

Key words: rosacea, acnae, oxidative protein modification, glycose-aminoglicans, oxyproline, lipoperoxidation, antioxidant system

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Poster

Influence of Parenteral Ozone Infusion on a Functional Myocardial Element with Circulatory-Haemic Hypoxia

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The Medical Basic College, The State Medical Academy, The Institute of Traumatology and orthopedic. Nizhny Novgorod, Russia

In pathogenesis of circulatory-hemic hypoxia there is a lack of attention to functional myocardium element (FME) damage. At this level the transport function of cardio-vascular system is made and the transcapillary exchange is implemented, which provide homeostasis, essential for life tissue. One of the main methods of ozone phoresis system for hypoxia correction has been considered to be the method of big autohemotherapy with ozone. The purpose of this work was the estimation of myocardium functional condition in hypoxia disorders treated by two methods: infusion of the ozonized physiologic saline and extracorporeal ozone treated using a big volume of blood. The experiments were implemented in 65 adult dogs without pedigrees, both sexes, weighting 15.7±1.6 kg on a model of hemorrhagic shock. Morphological characteristics of a myocardium were investigated: in sections, stained by PAS, were measured: diameter of capillaries (d); the quantity of functioning capillaries (N); the volume of capillary channel (V) and diffusion radius (R).Two stained methods were used. Tissues were analyzed in an electronic microscope (ЭМВ-100А). The infusions of the ozonized physiologic saline were accompanied by microcirculating myocardium channel, which were characterized by having capillaries containing plasma, in some cases there were met erytrocites in condition of stasis. There were also marked capillaries with the closed gleam as a result of pressure by edematous cardiomyocites. The lumine surfaces of the majority of capillaries were smoothed. At light microscopy it is noticed that ozonization leads to microcirculation activation because of revealing unfunctional capillaries and blood – groove redistribution on branches of MCC. Morphometrically it is proved by increasing of N, d and V. The diffusion radius (R) decreases, coming to initial condition. By electron microscopy open capillaries are revealed, which contain erythrocytes and plasma. Pinocitosis is temperate. Basic mambranes in the vast majority of observations are kent. The pericapillaries space was normal. Sometimes in cardiomyocites zones with non-unigorm painting were ground out. This fact points to regeneration processes in a cardiac muscle. After extracorporal ozone treatment of blood in posthemorrhagic period the favorable histological picture was observed from myocardium. Microcirculation was restored: open capillaries contain free-lying erythrocytes or plasma, its endothelium was functionally active, ribosomes-polysomes were met, because of renewal of synthetic processes. Morphometrically N, d, V increase and their values come to the initial R normalizes. The pericapillarious space was close to initial condition. Zones of weak hypostasis were extremely rare. Capillaries closely contact with cardiomyocites. In cardiomyocites dystrophic change decrease, good safety of SPR was also mentioned. Absence of an endocellular hypostasis improves energy transport from mitochondries to myofibrillies and SPR. It leads to interface of the process of excitation to reduction because of transport Ca^{2+} restoration. Absence of pericappilarious and intercellular hypostasis provides close contact between some cardiomyocites, and alse between cardiomyocites α capillaries. So, extracorporeal ozone treatment of blood create additional conditions for liquidation circular-hemic hypoxia consequences and lead to restoration of the structural myocardium organization and improvement of contracting function cardiac as a whole muscle.

Key: PO2 ENG

Type of presentation: Poster.

Key words: hypoxia, circulatory-hemic hypoxia, myocardium, ozone

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Poster

Effectiveness of Combination of Local Ozone Therapy and Reflex Zones Transcutaneuos Stimulation by Apparatus «Chance-02» («SKENAR») at Genitalia Phlogistic Diseases

Peretyagina N.S., Grechkanev G.O.

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Wide-spreading of urogenital infection and its role in ethiology and pathogenesis of some obstetric and perinatal diseases are important problem of modern medicine. Moreover, in last year's gynecology pathology level is elevated, what is why creation of new treatment methods is actually. Aim of this work was the investigation of effectiveness of combination of local ozone therapy and transcutaneuos stimulation of reflex zones by apparatus «Chance-02» («SKENAR») at patients with genitalia phlogistic diseases. We tested 36 peoples (20-30 years old) with uterus neck pseudoerosion in combination with phlogistic diseases of uterus and vagina, chronic specific and non-specific colpitis. Main group (20 patients) was treated by local ozone therapy and transcutaneuos stimulation of reflex zones by apparatus «Chance-02». Patient of control group locally got an antiseptic solutions (0.02% chlorhexidie or furaciline solution) and antibiotics. All patients were fully examined, including clinical diagnostics, gynecological investigation, colposcopy, cytological and bacteriological study. In addition, local microcirculation state was estimated by laser Doppler flowmetry. At patients with pseudoerosion in combination with colpitis and cervicitis (main group) after 5-6 procedures we has lasting marked anti phlogistic effect. Contraction of apical capillaries, reduction of edema of uterus neck and vagina mucous membrane and restoration of its ability to be colored by Lugol stuff were recorder. At cytological analysis after use of new treatment variant cytological picture of smear are optimized faster, than in control group. At patients of main group regeneration type of smear is prevailed (84.0±4.4%), in control group regeneration and phlogistic picture is prevailed (66.0±5.6 %). Bacteriologic study results show, that contamination of smears at patient of main group was reliably lower, than at control group ($188.5x10^3 \pm 1.7x10^3$ *vs.* $4.8x10^3 \pm 0.1x10^3$; $p<0.01$). Moreover, phlogogenic microorganisms sensitivity is elevated after new scheme of treatment. We found clear differences between main and control group in microcirculatory parameters. So, in control group microcirculatory level was 88 % from normal level at the end of treatment. It is important, that at this patient's blood circulation was normalized by bypass component, because this parameter was elevated at 55%, but neurogenic and myogenic tone was not changed. In patients of main group microcirculatory level was higher at 2.7 times to control and at 2.3 times to healthy people. In this group main compensation mechanism are activation of neurogenic tone (lead to restoration of source microcirculatory), but not by bypass component. Our results demonstrated, that stimulating effect of developed method is associated with neuroreflectory action by optimization of local blood circulation, cellular metabolism and neoangiogenesis.

Key: PO3 ENG

Type of presentation: Poster.

Key words: ozone therapy, SKENAR-therapy, genitalia phlogistic diseases

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Poster

Organization Aspects of Ozone Therapy Use in State-Financed Health Care System

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Ozone therapy has a large spectrum of non-specific effects and can be used for treatment of many wide-spread diseases (atherosclerosis, coronary heart disease, arterial hypertension, respiratory, gynecological, dermato-venerological, gastroenterological, chirurgical and traumatological pathology etc). This fact allows to introduced ozone therapy in state-financed health care system and private medical practice. Aim of this work was the generalization of practice experience of ozone therapy departments in large state-financed clinics of Nizhny Novgorod (Nizhny Novgorod Research Institute of Traumatology and Orthopaedy, Nizhny Novgorod Regional Clinical Hospital named after N.A. Semashko, Kiselikha hospital for war veterans) at 2006-2010 years. This work are based on annual statistical reports of listed organizations. Stream of patients, which needs for ozone therapy, was organized in special hospitals at last years. At optimal technological scheme main therapeutic and diagnostic departments of hospital are used. Primary level of this system includes doctors of special departments. They carry out clinical diagnostics and determine the necessary of ozone therapy procedures for each patient. For this decision they use indication and contra-indication lists to individualization of management program. Specialties of ozone therapy dose and regimen were selected by doctor, educating in this technology. In is important, that ozone use does not eliminated any other variants of treatment (medicamental, infusion and transfusion, physiotherapy etc.). Spectrum of ozone therapy variants is regulated by medical indications, clinical and laboratory control and technical possibilities of special department personal. 18-yaers experience of ozone therapy department functioning allow to ascertained its optimal structure, including 1 doctor, 1 nurse and 1 hospital attendant. Ozone therapy department must has separate rooms unit, including procedure room for parenteral treatment of 3-5 patients, manipulation rooms for local ozone therapy and rectal insufflations, bathroom. Informatization of department must be based on computer patient's bank creation. Main medical document of this hospital; unit is individual statistical card, which embraced patients identification data, clinical diagnosis, recommended ozone therapy regimen and procedures volume. Important part of individual statistical card is results of laboratory investigations in therapy course dynamics, which allow to estimete treatment effectiveness. At all time of ozone therapy service functioning was treated 3487 patients with thermal trauma and its complications (pneumonia, sepsis, encephalopathy, polyneuropathy), traumatological and orthopedic pathology and other somatic diseases (systemic atherosclerosis, coronary artery disease, atrophic dororders of lower extremities etc.). This experience of ozone use in Nizhny Novgorod, Central and Saratov Research Institutes of Traumatology and Orthopaedy and Research Institutes of Emergency named after N.V. Sklifosovsky allow to exe new medical technology «Use of ozone-oxgen mixture in traumatology» (№ FS-2007/029U). It regulates local and systemic (ozonized sodium chloride solition) ozone use. This technology was introduced in more than 600 hospitals of Russian Federation. So, our experience allow to organize ozone therapy departments in any state-financed clinics.

Key: PO4 ENG

Type of presentation: Poster.

Key words: ozone therapy, government-financed health care organization

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Poster

Ozone Therapy for the Diabetic Foot

A case report

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In many cases of diabetic foot, ozone therapy (OT) can be the one method which can save the limb from amputation. Since the great report of Rokitansky, given at the IOA World Congress, Washington DC, 1983, it is generally accepted that OT can avoid roughly 50% of amputations. OT offers the chance to approach the problem externally / topically with local application of ozone via "bagging", as well as internally / systemically with the major auto-hemotherapy with ozone and, in extreme cases, also with injections of the O_2-O_3 gas mixture directly into the femoral artery. The local application of ozone in high concentrations by "bagging" is meant to sterilize the wounds. In a second phase, lower ozone concentrations will help the healing process. In the beginning, it should be given daily or at least three times per week. The systemic OT via major auto-hemotherapy will increase the oxygen saturation in the erythrocytes, increase the liberation of this oxygen in the peripheral capillaries, modify rheological properties of the blood, avoid "sludging" of red blood cells, improve all metabolic steps of cell respiration, it will help control blood sugar levels, as well as upgrade the patient's immune response and general condition. Intra-arterial injection of ozone must be reserved for extreme cases only. This is a more difficult technique, requiring more specialized know-how and somewhat more accident-prone than most other forms of OT, which is why it is no longer generally recommended by the German Medical Society for Ozone Therapy.

Key: PO5 ENG

Type of presentation: Poster.

Key words: ozone therapy, diabetic foot, healing process

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Poster

Report of Results of Treatment of Disc Herniation with Lateral Epidural Infiltration Ozone.

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The standard treatment of disc herniation with ozone is made with direct epidural infiltration. The lateral approach would allow closer approximation of the substance with the defect, increasing the benefits but no results have been reported. Report the results with the lateral epidural infiltration of ozone for the treatment of disc herniation.There is a report of 26 cases from patients between 23 and 67 years with diagnosis of disc herniation between the spaces L4 – L5 and L5 – S1, with a level of pain by analogical visual scale 7-9 in whom epidural infiltration was performed weekly with 15 mL of 20 µg/mL ozone solution for three weeks applied with perican 18 by lateral peridural and slow removal of the needle with 3 mL administered on its way. After the treatment, a control magnetic resonance imagination and pain measurement with analogical visual scale were performed 4 months post-treatment. All 26 patients completed the protocol. The herniation disappeared in 21 of them, in 5 of them, it was reduced. Pain, evaluated by analogical visual scale, was reduced in the first session to 2 or 3 and at the end of treatment, to 0 in all of them. The only side-effect was an increased pain intensity that lasted 5 min after infiltration. Adjuvant drugs were not used. The proposed treatment shows high adherence and effectively equal or higher than those reported by other authors using classical approach. Due the reduced population, results should not be generalized. However, sit the tone for the development of clinical trials to evaluate the therapeutic modality.

Key: PO6 ENG

Type of presentation: Poster.

Key words: ozone therapy, disc herniation, epidural approach

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Cartel

Reporte de Resultados del Tratamiento de Hernias Discales con Infiltracion Peridural Lateral de Ozono.

Walter Andrade, Caballero A.

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El tratamiento estándar de la hernia discal con ozono se hace con infiltración peridural directa. El abordaje lateral permitiría una mayor aproximación al defecto, incrementándose los beneficios, pero no se han reportado resultados. El presente trabajo tuvo como objetivo reportar resultados con la infiltración peridural lateral de ozono para tratar hernia discal. Se realizó un reporte de 26 casos de pacientes entre 23 y 67 años, con diagnostico de hernia discal entre los espacios L4-L5 y L5-S1 con un nivel de dolor por escala visual analógica de 7-9, en los que se realizó infiltración peridural semanal de 15 mL de ozono en una solución de 20 µg/mL, por 3 semanas, aplicado con perican nº18 por vía peridural lateral y retiro lento de la aguja administrando 3 mL en el trayecto. Al concluir la terapéutica se realizó resonancia magnética nuclear de control y medición del dolor con escala visual analógica 4 meses posterior al tratamiento. Los 26 pacientes concluyeron el protocolo. Se evidenció la desaparición de la hernia en 21, en 5 se redujo. El dolor evaluado por escala visual analógica, disminuyó en la primera sesión a 2 o 3 y al concluir el tratamiento a 0 en todos. El único efecto colateral fue un aumento de la intensidad del dolor que duro 5 min post-infiltración. No se usaron fármacos coadyuvantes. El tratamiento propuesto presenta alta adhesión y una efectividad similar o superior a los reportados por otros autores con abordaje clásico. Debido a lo reducido de la población, los resultados no deben generalizarse, sin embargo dan la pauta para el desarrollo de ensayos clínicos para evaluar esta modalidad terapéutica.

Key: PO6 SPA

Tipo de Presentación: Poster.

Palabras clave: Hernia discal. Ozonoterapia. Abordaje peridural

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Poster

Marked Improvement in Children with Cerebral Palsy after Rectal Insufflation with Ozone.

Walter Andrade, Columbus M.

Ozomedical Centro de ozonoterapia Guayaquil-Ecuador

Lost in a better way psycho-motor deficiencies in children with cerebral palsy. Reported cases of 32 children between 1.3 and 8 years, 18 males and 14 females who were diagnosed by neuropediatric assessment of cerebral palsy, spastic type, and mixed; rectal insufflation was performed daily for 3 weeks. Was given 5 mL per kg of weight at a concentration of 20 µg per mL, which was increased every 5 sessions for a total of 30 µg per mL, using a probe Nelaton No. 10, lubricated with aqueous gel, were introduced 3 cm of it and Slowly inject the ozone gas. All children completed the protocol and they progressed in speech therapy and motor rehabilitation being the first to notice the change, lower doses of anticonvulsants, sleep better, regulate their depositions and none of them present any complications, both parents as children tolerated the therapy is not painful. Ozone therapy applied to children under 3 years, produced positive results, due to the oxygenation that occurs while reducing free radicals, and controlled studies would be important to help confirm these results.

Key: PO7 ENG

Type of presentation: Poster.

Key words: ozone therapy, cerebral palsy, neuropediatric

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Cartel

Mejoria Notable en Niños con Paralisis Cerebral Infantil Luego de Insuflacion Rectal con Ozono.

Walter Andrade, Columbus M.

Ozomedical Centro de ozonoterapia Guayaquil-Ecuador

Recuperar de una mejor manera las deficiencias psico-motoras de los niños con paralisis cerebral infantil. Reporte de casos de 32 niños entre 1,3 y 8 años, 18 género masculino y 14 género femenino, quienes fueron diagnosticados mediante valoración neuropediatrica de Paralisis Cerebral Infantil, de tipo espástica y mixta se realizó una insuflación rectal diaria por 3 semanas. Se administraba 5 mL por kg de peso a una concentración de 20 µg por mL, que se aumentaba cada 5 sesiones hasta un total de 30 µg por mL, mediante una sonda nelaton nº 10, lubricada con gel acuoso, se introducían 3 cm del mismo y se insuflaba lentamente el gas ozono. Todos los niños concluyeron el protocolo y ellos progresaban en terapias de lenguaje y motrices, siendo los rehabilitadores los primeros en darse cuenta del cambio, disminuyen dosis de anticonvulsivantes, duermen mejor, regularizan sus deposiones y en ninguno de ellos se presento complicación alguna, tanto padres como niños toleraban la terapia que no es dolorosa. La terapia de ozono aplicada a niños menores de 3 años, produjo resultados positivos, debido a la oxigenación que este produce y al mismo tiempo reducir radicales libres, y sería importante realizar estudios controlados que ayuden a corroborar estos resultados.

Key: PO7 SPA

Tipo de presentación: Poster.

Palabras clave: ozonoterapia, paralisis cerebral, neuropediatria, parálisis cerebral infantil

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Poster

Ozone Therapy and Clinical Trials, Status and Perspectives

Lamberto Re, M.D., Ph.D [1,2]; Gregorio Martínez-Sánchez, Pharm. D. Ph.D.[1]

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The physiological formation of an ozone-similar mediator during inflammation is indicative of the striking potential of ozone as a new bio-molecule. The fact imposes hard efforts to clarify the hypothesized mechanism following new strategies with newly constructed randomized-standardized clinical trials. Moreover, the mechanisms of action of ozone on blood bio-molecules with the generation of several messengers responsible of its biological effects have been well clarified since 2002. Official medicine does not consider the efficacy of ozone therapy mainly 1) it is too focused on the molecular drug-receptor interaction and ignores the capability of ozone as pro-drug. 2) Most of the clinical scientists are not aware that ozone can dramatically change the course of several diseases by activating multiple pathways. 3) Pharmaceutical industries have good reason to ignore ozone because it costs almost nothing, is not patentable and does not produce wealth. Lack of sponsor is also a problem because it makes impossible grant funding for controlled, multicenter, randomized clinical trial comparable to those produced by pharmaceuticals. Clinical trials are conducted regularly to validate the effects of new pharmaceuticals and medical devices with protocols that, other than very expensive, may have some risks to the people enrolled for them. Medical ozone practitioners should know all the steps to conduct clinical trial in order to make stronger and believable this discipline by a rigorous scientific and clinic point of view.

Key: PO8 ENG

Type of Presentation: Poster

Key words: ozone, clinical trials, pro-drug

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Cartel

La Ozonoterapia y los Estudios Clínicos, Estado y Perspectivas

Lamberto Re, M.D., Ph.D.[1,2], Gregorio Martínez-Sánchez, Pharm. D. Ph.D.[1]

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La formación de manera fisiológica de un mediador similar al ozono durante la inflamación es un indicador de su potencial como una nueva biomolécula. Este descubrimiento implica esfuerzos adicionales para esclarecer las hipótesis sobre su mecanismo de acción y avanzar hacia la ejecución de estudios clínicos al azar y estandarizados. Por otra parte, los mecanismos de acción del ozono sobre biomoléculas de la sangre, con la consecuente generación de varios mensajeros responsables de sus efectos biológicos han sido bien aclarados desde el año 2002. La medicina oficial no tiene en cuenta la eficacia de la terapia con ozono, principalmente porque: 1) se centra demasiado en los mecanismos moleculares de interacción fármaco-receptor, e ignora la capacidad del ozono como pro-fármaco 2) la mayoría de los clínicos no son conscientes de que el ozono puede cambiar dramáticamente el curso de varias enfermedades mediante la activación de múltiples vías 3) la industria farmacéutica tiene una buena razón para ignorar el ozono, ya que no cuesta casi nada, no es patentable y no produce riqueza. La falta de patrocinadores es también un problema ya que hace imposible las subvenciones de estudios controlados, multicéntricos y aleatorios comparables a los que avalan los productos farmacéuticos. Los ensayos clínicos se llevan a cabo periódicamente para validar los efectos de nuevos fármacos y dispositivos médicos con protocolos que, además de muy caros, puede presentar algunos riesgos para las personas involucradas. Los profesionales que practican la ozonoterapia deben conocer todos los pasos para llevar a cabo estos ensayos clínicos con el fin de hacer más fuerte y más creíble esta disciplina y avalarla con rigor científico desde el punto de vista clínico.

Key: PO8 SPA

Tipo de participación: Cartel.

Palabras clave: ozono, ensayos clínicos, pro-fármaco

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Poster

Effects of Ozone Oxidative Postconditioning Against Alcohol Wihdrawal Syndrome in Lewis Rats

Angela Fraga-Pérez, Maria T. Díaz-Soto, Olga S. León-Fernández, Jaqueline Dranguet, Becker MA

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Alcoholism is a serious health problem. In western industrialized countries, approximately two-thirds of the entire population above the age of 18 years consumes alcohol. Alcohol is the third leading cause of healthy years lost to death and disability in developed nations. The role of chonic oxidative stress on liver and Central Nervous System injury in alcoholism has been well-grounded. On the ohter hand, Ethanol Withdrawal (EW) Syndrome has not specific therapeutical treatment and its symptoms are so laborious that patients frecuently abandon the medical treatments. Since Ozone Oxidative Pre/Postconditioning mechanism promotes the reestablish of cellular redox balance the aim of this work was to study the effects of OzoneOxPostconditioning (OzoneOxPost) on EW syndrome in order to clarify pathological mechanisms and improve laborious symptoms during EW through ozone therapy.Chronic alcoholism model (94 days) in Lewis rats was used. 4 groups (n=10) of rats (Non-Acoholics, Alcoholics, Alcoholics+Ozone and Alcoholics+Oxygen) were included. Before starting alcohol withdrawal and after 2 weeks of EW redox markers were measured (in blood and brain homogenates), behavioral tests (learning, memory, locomotor activity and anxiety) were studied. Ozone treatment improved redox balance in Lewis rats mainly MDA levels which was reestablished to non-alcoholic control group. MDA is substrate of aldehyde deshydrogenase. This enzyme metabolize acetaldehyde which accumulation is responsable of liver and central nervous system injury as well as alcohol withdrawal syndrome. After OzoneOxPost behavioral tests improved in all parameters which were measured and there was a correspondency with redox makers. In summary, OzoneOxPost was able to reestablish cellular redox balance in Lewis rats. Behaviours such as anxiety, memory/learning, locomotor activity and agitation during EW were improved. These results demonstrate the efficacy of ozone therapy in this syndrome.

Key: PO9 ENG

Type of Presentation: Poster

Key words: ozone, oxidative postconditioning, alcohol wihdrawal syndrome

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Poster

Applications of Ozone in Urology

Dr. Martin Garcia Villanueva

Medica Angelus, México D.F.

The application of Ozone in the most common pathologies of Urology (hypertrophy prostatic, cancer prostate, balanitis, stenosis to the urethra, dysfunction erectile, ejaculation premature, peyronies disease, interstitial cystitis, human papillomavirus, and cervicovaginitis mixed) has had an amazing result. In the present work the application of the Ozone it´s given depending on affected the site, combined (in some cases) with, (cancer prostate, human papillomavirus) such as local, subcutaneous, directly into the lesion and / or by instillation. Once with the result and benefits, in terms of improving symptoms and, in many cases, healing the pathology, treatment regimens were developed, both: simple and combined.The goal is to give to the patient a better quality of life, whether curative, preventive and / or palliative in 10 of the most common pathologies in urology. The methods used were autohemotherapy, instillation, local, subcutaneous and intralesión. Over 80% of patients had significant improvement in their symptoms, such as hypertrophy prostatic where it is observed, after treatment, a reduction in prostate size of 10 % to 30%, as well as elimination of residual urine. All patients with urological disease that were treated with Ozone therapy show a significant improvement and, in many cases, healing. This work shows the usefulness of Ozone therapy as a tool in medical practice, with surprising results, as it gives to the patient a better quality of life.

Key: PO10 ENG

Type of Presentation: Poster

Key words: Ozonetherapy, Urology, quality of life

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Cartel

Ozonoterapia en Urología

Dr. Martin Garcia Villanueva

Medica Angelus, México D.F.

La aplicación del Ozono en las patologías más frecuentes de la Urología (Hiperplasia Prostática, Cáncer de Próstata, Balanitis, Estenosis de Uretra, Disfunción Eréctil, Eyaculación Precoz, Enfermedad de Peyronie, Cistitis Intersticial, Virus de Papiloma Humano y cérvico-vaginitis mixta, han tenido un resultados asombrosos. En este estudio se realizó la aplicación del Ozono dependiendo del sitio de afectación, en combinación (en algunos casos) con Autohemoterapia Mayor, con terapia local, subcutánea, directamente en la lesión y/o por instilación. Una vez que se obtuvieron los resultados y beneficios, en cuanto al mejoramiento de los síntomas clíncos y en muchos de los casos la curación de los mismos, se formularon esquemas de tratamiento, tanto simples como combinados. El objetivo fue brindar al paciente una mejor calidad de vida, ya sea curativa, preventiva y/o paliativa en 10 de las patologías más comunes de la Urología. Los métodos utilizados fueron la aplicación de Ozono por Autohemoterapia, instilación, local, subcutánea e intralesión. Más del 80% de los pacientes presentaron mejoría importante en su sintomatología, como es el caso de la hiperplasia prostática, en donde se observó después del tratamiento, una reducción del tamaño de la próstata de 10 % a 30 %, así como también eliminación de orina residual. Todos los pacientes con patología Urológica tratados con Ozonoterapia obtuvieron mejoría importante y en muchos de los casos, la curación total. Este trabajo muestra la gran utilidad de la Ozonoterapia como herramienta en la práctica médica, con resultados sorprendentes, ya que brinda al paciente una mejor calidad de vida.

Key: PO10 SPA

Tipo de presentación: Cartel

Palabras clave: ozonoterapia, urología, calidad de vida

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Poster

Effects of Ozone Therapy in Conjunction with Vaccination Immunotherapy for Malignant Brain Tumor, A Case Study.

Dr. Clint Folson[1], Adriana Schwartz Tapia[2], Don Petersen[1]

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Oxygen/ozone therapy is a well established complementary therapy which can result in stimulation of the immune and healing systems, improvement of blood circulation and oxygen delivery to ischemic and neoplastic tissues, improvement of the general metabolism, correct the chronic oxidative stress by upregulating the antioxidant system and procure an estate of well-being in patients by activating the neuro-endocrine system. Dendritic cell vaccines are currently being used to help treat various forms of cancer, including brain cancer. Objective of this paper is to present a case report of a patient who has received both ozone and dendritic cell vaccine to treat glioblastoma multiform tumor.

A 66 year old male presented with a Grade 4 glioblastoma multiform tumor. MRI showed a tumor of 70 mm size. Dendritic cell vaccine therapy was administered. Breifly, dendritic cells were separated from whole blood using Ficol-Hypaque density centrifugation. Cells were grown out and a feeding schedule with appropriate cytokines was used. Cells were then exposed to whole tumor to engender immunologic response. Cell vaccines were administered on a biweekly schedule for a total of three courses. During the vaccine treatment the patient developed pneumonia. Subsequently, 10 ozone therapy sessions was administered.

The tumor for the patient has gone from 70 mm and to 60 mm after ozone therapy. In conclusion, ozone therapy would appear to be a promising adjunct treatment with dendritic cell vaccine for the treatment of cancer tumors.

Key: PO11 ENG

Type of Presentation: Poster

Key words: Ozone therapy, dendritic cell vaccine, glioblastoma

Workshops

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Workshop

Growth Factors Ozonized Platelet: Applicacion in Aestethic Medicine and Knee Degenerative Osteoarthritis

Adriana Schwartz Tapia,[1] Gregorio Martínez-Sánchez, [2] Joaquín Cabot.[3]

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A newer treatment, autologous platelet-rich plasma (PRP), represents a greater similarity to the natural healing process as a composite of multiple growth factors, is safe due to its autologous nature, and is produced as needed from patient blood. PPR is an concentration of platelets and growth factors, including transforming growth factor-beta (TGF-b), vascular endothelial growth factor (VEGF), and platelet derived growth factor (PDGF). The enhancement of tissue healing by the placement of supraphysiologic concentration of autologous platelets at the site of tissue injury or surgery is supported by basic science and clinical studies. Due to the increased concentration and release of these factors, PPR can potentially enhance the recruitment and proliferation of stem cells and endothelial cells. Ozone can promote platelet aggregation and release of grow factors with both mitogenic and chemotactic properties. In addition to use in the treatment of chronic skin and soft tissue ulcerations, application of this method include periodontal and oral surgery, maxillofacial surgery, orthopedic and trauma surgery, cosmetic and plastic surgery, spinal surgery, heart bypass surgery, and burns. A better understanding of platelet function and appropriate clinical use is essential in achieving the desired outcomes of platelet-rich concentrate in clinical applications.

Key: WS 01 ENG

Tipo de presentación: Workshop

Key Words: Platelet-rich plasma, Platelet, Growth factors, Ozone

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Workshop

Oxidative Stress: Diagnostic and Antioxidant Interventions.

Ph.D. José Carlos Jiménez Ortega[1] , Prof. Luisa Batilde Lima Hernández[2]

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Increased life expectancy and the impact of chronic degenerative diseases in medical advances, aided by molecular tools, have led to the study of basic cellular processes involved in aging and disease.The aging and disease process cells share a number of molecular patterns characteristic, where the cell function is significantly impaired. These alterations are mediated primarily by damage to macromolecular structures of the cell resulting in tissue and organic damages. Oxidative stress is a key phenomenon during aging and cell damage. This condition is an imbalance between the amount of reactive species of oxygen, and cellular antioxidant systems of an organism. This phenomenon has been linked to a myriad of diseases in which chronic degenerative highlights. At present it is necessary that health professionals understand, diagnose, and treat oxidative stress properly, primarily because it is a pathological process but a phenomenon that originates during cellular respiration. Reactive oxygen species, poorly called free radicals, among other molecular species are not harmful and are involved in cell division, differentiation, phagocytosis, repair mechanisms and cell death, and other processes required to maintain body homeostasis However, when oxidative stress levels are altered promote the development and / or worsening of disease. Antioxidant therapies are a tool to correct the oxidative stress during aging and disease. However, it is necessary to understand their characteristics and mechanisms of action. At present there are a variety of antioxidants, nevertheless, as discussed during the workshop, oxidative stress is a dynamic phenomenon that varies from tissue to tissue. This has prompted the development of different antioxidant formulas, known as physiological modulators that selectively and efficiently contribute to the modulation of tissue oxidative stress.

Key: WS 02 ENG

Tipo de presentación: Workshop

Key Words: oxidative stress, diagnosis, antioxidants and physiological modulators.

Workshop

Clinical Integration of Oxygen/Ozone Therapy in Dental Medicine – A Comprehensive Review

Phill Mollica and Robert Harris

American College of Integrative Medicine and Dentistry

EDUCATIONAL GOALS WILL BE DIRECTED TO ACCOMPLISH THE FOLLOWING:

1. Introduce the biophysics, biochemistry and physiologic responses of oxygen/ozone dental therapy.
2. Present dental applications of oxygen/ozone therapy.
3. Integrate safe and effective oxygen/ozone procedures into patient care.
4. Eliminate oral infections without toxic side effects.

INSTRUCTIONAL SCHEDULE

I. Foundational Oxygen / Ozone Therapy

- How is ozone produced
- History of ozone therapy
- Safety record
- Antimicrobial properties

II. Ozone Instrumentation

- Ozone unit specifications

Specific configurations for: Nasal insufflations, Ear insufflations, Water ozonation, Dental handpiece use, Syringe filling.

III Clinical Applications

- Restorative dental procedures
- Adhesive dental procedures
- Periodontal dental procedures
- Endodontic dental procedures
- Surgical dental procedures
- Dental hygiene procedures

IV Review of Handout Material

- Basic Scientific Facts
- Frequently Asked Questions
- Brief Description of Specific Dental Applications

DENTAL OZONE. BASIC SCIENTIFIC FACTS

Ozone (O_3) is an allotrope of Oxygen (O_2). An allotrophe is a variant of a substance consisting of only one type of atom. It has a NEW molecular configuration and NEW PHYSICAL PROPERTIES. Example: carbon can exist in multiple forms such as: a soft graphite and/or a hard diamond.
Ozone is created by an energetic reaction that results in an oxygen molecule (O_2) being split into singlet oxygen (O^1). A singlet oxygen then combines with a diatomic oxygen (O_2) forming ozone (O_3). This energetic process is a result of energy produced by: sunlight, lightning, ultraviolet light and corona discharge tubes.
Ozone is an oxidant and is also referred to as an oxidizer. An oxidizer is a substance that accepts an electron from another substance and is then reduced. It acts as an electron acceptor. It also adds an oxygen atom to the compound being oxidized. *In vivo* it produces hydroperoxides, lipoperoxides, etc.
Healthy cells have antioxidant enzymes in their cell membranes, such as: superoxide dismutase, catalase, glutathione peroxidase, etc. There are also antioxidants such as: vitamin C, vitamin E, etc. present in the extracellular matrix fluids, plasma, etc. These antioxidants protect the healthy cells from being oxidized (burned up) by ozone.
Pathogens such as: Bacteria, Viruses, Fungi, and Parasites have little or no antioxidant enzymes in their cell membranes. This makes them vulnerable to oxidants. An oxidant (ozone, chlorine, etc.) will destroy the cell membrane of the pathogen resulting in a disinfecting or sterilizing effect. Ozone leaves NO TOXIC BYPRODUCTS like chlorine compounds (trihalomethanes, etc.) leave in vivo or ex vivo. The final breakdown products of O_3 are water and oxygen.
Biofilms are a complex aggregation of structurally and genetically diverse microorganisms growing on a solid surface. Biofilms are found in dental plaque, carious lesions, periodontitis, dental waterlines, etc. The cover story in "The Journal of the American Dental Association," 140(8): 978-986 is "Periodontitis: An Archetypical Biofilm Disease" It states that "Periodontitis is a classic example of biofilm-mediated diseases." The article concluded that, "Periodontitis, like other biofilm infections, is refractory to antibiotic agents and host defenses because the causative microbes live in complex communities that persist despite challenges that range from targeted antibiotic agents to phagocytosis." The clinical implications concluded that "The regular delivery of nontargeted antibiofilm agents may be an effective strategy for treating biofilms, especially if these agents include oxidative agents that dissolve the biofilm matrix." ** *Longevity Resources opinion: This means that ozone could be used in all dental procedures, as it has been proven to eliminate biofilms.***

FREQUENTLY ASKED QUESTIONS ABOUT DENTAL OZONE

How does ozone produce therapeutic effects in the Dental Office?

Ozone is a powerful oxidant. Bacteria, Viruses, Fungi and parasites have little or no antioxidant enzymes in their cell membranes. Without this protection ozone oxidizes (burns a hole through) the cell membrane causing it to rupture, resulting in cell death. Healthy cells have antioxidant enzymes in their cell membranes and are not harmed by therapeutic levels of ozone. Water treatment research in Europe has demonstrated that ONE MOLECULE OF OZONE has the oxidizing power of more that 3000 molecules of chlorine. This same research also showed that the ozone killed pathogenic organisms 3500 times faster with no toxic side effects and no toxic byproducts. Medical ozone studies have demonstrated benefits such as: improved wound healing, improving the immune system response, increased oxygen delivery to hypoxic tissues, etc. Velio Bocci, MD, in his book, *"Ozone: A New Medical Drug",* states,"……it is clear that, among complementary approaches, ozone therapy has emerged as the one that is well explainable with classical biochemical, physiological, and pharmacological knowledge."

Are Dentists using ozone in their practices now?

Yes, as reported in the April edition of *"Dental Product Shopper",* ozone has revolutionized the dental practices of hundreds of Dentists. When ozone is used in Dental procedures it treats the cause of the problem NOT JUST the symptom. This produces a proactive approach to treatment rather than solely engaging in the routine procedure of damage control.

How are other Dentists using ozone for dental treatment?

Prevention and Protection: Routine use of ozonated water as a pretreatment patient rinse to disinfect their oral cavity. Fill the unit water supply bottles and the Ultrasonic/Piezo reservoirs with ozonated water. This protects you and your staff from aerosol contaminants produced by high speed instruments and water spray from the three way syringe. The unit water lines will also be free of all biofilms when the ozonated water is used in the reservoirs. Ozone performs this disinfection and sterilization and leaves only oxygen and water as byproducts.

Patient Treatment: In patient care, ozone is utilized in two forms: (1) ozonated water and (2) pure oxygen/ozone gas. Using these two agents in combination allows the Dentist to treat all oral infections using only oxygen and water! Regardless of the location or the type of infection ozone is able to treat almost any situation. The ozonated water is the perfect irrigation solution for periodontics and endodontics. For operative dentistry, periodontics and endodontics, ozone gas is used to reach and penetrate areas such as: carious dentin, dentinal tubules, accessory canals and periodontal pockets where no other antibiotic or disinfectant can reach.

This is possible because the infection/inflammation is positively charged (acidic) and ozone is negatively charged. (basic) Therefore, the chemistry of the infection and/or inflammation attracts the ozone to the area.

Is ozone toxic?

To reiterate, OZONE IS A STRONG OXIDANT! Because of this extreme oxidant capacity, good ozone hygiene is required. Correctly scavenging the excess ozone gas and preventing it from escaping into the office environment is essential. This aspect is critical because the membranes of the eyes and lungs are very weakly protected by antioxidant enzymes. These are the only tissues that require protection from the dosage levels that are used in Dental ozone protocols.

Are there any published studies on Dental ozone?

Yes, there are hundreds of published research studies that use ozone in dental procedures. In the book, *"OZONE, The Revolution in Dentistry",* edited by Dr. Edward Lynch and published by Quintessence Publishing Company Limited, there are 132 studies applying ozone treatment to different dental problems (page 78, Table 1). There are hundreds of published articles on the medical uses of ozone. A research article from Scripps Institute, in LaJolla, CA, published in November, 2002, in the journal, *"Science"*, reported that ozone was produced in the plasma cells to kill invading pathogens. This ozone production is a naturally occurring process in the human immune system.

When was ozone first used in dental procedures?

In the 1930's, ozone was used in Germany for dental procedures by Dr. E.A. Fisch.

How do I learn to use ozone in my dental practice?

The American College of Integrative Medicine and Dentistry (ACIMD) offers "Ozone in Dentistry" courses that are AGD approved for Dental Continuing Education. The AGD subject code for Ozone Therapy is #162. The ACIMD website is www.ozonefordentisry.com Phone 201- 820-3829 or 201-587-0222

A Brief Description of Specific Dental Applications

Hygiene Appointments----Protect Patients and Staff
Patient uses ozonated water as a pretreatment rinse
Ozonated water is used in the unit water supply bottles
Ozonated water is used in the Ultrasonic unit water reservoirs
Ozone gas is used before placing sealants
Operative Dentistry Appointments----Protect Patient, Doctor and Staff
Patient uses ozonated water as a pretreatment rinse
Ozonated water is used in the unit water supply bottles
Ozone GAS is applied to cavity preparations and crown preparations to sterilize the prepared tooth by oxidizing the remaining pathogens and organic materials in the enamel, remaining caries, and dentinal tubules. This produces a pathogen free oxidized surface that enhances bonding strength and decreases or eliminates post-operative sensitivity.
Periodontal Appointments----Protect Patient, Doctor and Staff
Patient uses ozonated water as a pretreatment rinse
Ozonated water is used in the unit water supply bottles
Ozonated water is used in the Ultrasonic water reservoir
Ozonated water is used to irrigate periodontal pockets
Ozone GAS is used to insufflate (blow gas into) the periodontal pockets
Ozone Custom Trays are used for total saturation (microbaric therapy) of all periodontal tissues AND carious lesions, precarious areas, occlusal grooves, interproximal areas and margins of existing restorations. This can prevent caries and aid in recalcification of areas that have minimally invasive caries
Endodontic Appointments----Protect Patient, Doctor and Staff
Patient uses ozonated water as a pretreatment rinse
Ozonated water is used in the unit water supply bottles
Irrigate canals with ozonated water to debride the canals and remove biofilm
Insufflate canals with ozone GAS to eliminate pathogens and oxidize organic materials in the dentinal tubules, accessory canals and lateral canals

References

Lynch, Edward (ed) Ozone: The Revolution in Dentistry. Quintessence Publishing Co. Ltd. London 2004
Bocci, Velio Oxygen-Ozone Therapy. A Critical Evaluation. Kluwer Academic Publishers. Dordrecht, The Netherlands 2002
Bocci, Velio Ozone: A New Medical Drug. Springer Publishing, Dordrecht, The Netherlands 2004
Fahmy, Ziad Book of Rheumatology. The Application of Ozone Therapy in Pain Management, Rheumatic and Orthopaedic Diseases. Fahmy, Ziad. Iffezheim, Germany 2008
Viebahn-Hansler, Renate The Use of Ozone in Medicine 3rd Edition, ODREI-Publishers. Iffezheim, Germany 1999

Key: WS 03 ENG

Tipo de presentación: Workshop

Key Words: ozone, dental medicine

Speakers CV

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Dr. Froylán Alvarado Güémez (MEX)

BORN IN Culiacán, Sinaloa, México. July 31st. 1955.
LANGUAGES: Chinese, English, Can read French.
COLLEAGUE DEGREE: Medical Doctor. Faculty of Medicine. Universidad Autónoma de Guadalajara 1973-1978. Registro SSA 73428, Cédula Profesional 585670
LECTURE CATEGORY AND ACADEMICAL ACTIVITIES.
- Full Time Professor. Faculty of Medicine. Universidad Autónoma de Sinaloa, 1978 - 1980 //- Critical Care Medical Training Medical Residence. Hospital Colonia - // Universidad Nacional Autónoma de México. México, D.F. 1980 – 1982. //- Acupuncture,
-Associated Professor of Ozonetherapy Training Program (Basic / Intermediate / Advanced Levels). Universidad Autónoma de Sinaloa. Faculty of Medicine. Continuous Medical Education Department. Since 2005.
-Organizer and Profesor since April 2003 of sixteen (2 per year) *Ozone Therapy Training Programs* divided in 3 levels; Basic, Intermediate and Advanced. Duration 52 hours. Recognized and endorsed by Facultad de Medicina de la Universidad Autónoma de Sinaloa and Mexican Ozonetherapy Association. The total number of physicians trained in both Mexicans and Hispanic-Americans exceed 500 MD´s.
-Continuous Medical Education Department. Faculty of Medicine. Universidad Autónoma de Sinaloa.
-Coordinator and Associated Professor of the following Annual Ozonetherapy Courses:
Training workshop of Discolisis with Ozone
March 31 - April 2, 2006; October 26 - 28, 2007; July 24 - 26, 2009; November 26 - 28, 2010; May 20 - 22, 2011.
Courses of Ozone Infiltration for Pain Management,
April 26 - 28, 2008 ; March 28 – 29, 2009 ; May 30 -31, 2009 ; April 17 – 10, 2010; May 29 - 30, 2010; March 30-31 and Abril 1st. 2011
-DIPLOMA by the Spanish Association of Physicians in Ozone (AEPROMO) as a teacher of the course of 50 hours' INTENSIVE OZONE theoretical and practical
-Developed theme: “Knowledge and basic skills for the practice of ozone therapy. "Madrid, January 25 - 30, 2010.
-Second International Neuro-rehabilitation and Second International Workshop on Equestrian Rehabilitation.
-Professor Course Certified Professor of the Pre-Meeting Course:
Theme: "Oxidative Stress: Nutrition and Ozone" of the Held at the Palacio de Convenciones in Havana, Cuba. 8 al 12 March 2010
-Diploma awarded by the Spanish Association of Medical Professionals in Ozone (AEPROMO) for his role as Professor of nine hours of training and updating in OZONE. Madrid, June 5, 2010.
Attendant at the INTERNATIONAL SCHOOLS OF OZONETHERAPY MEETING and participation as Moderator of Round Table at the Royal Academy of Medicine. Madrid. 3 and June 4, 2010.
POSTGRADE COURSES AND SKILLS: -Moxibustion and Massage Training Specialist at Beijing // Traditional Chinese Medicine. Beijing, China. 1988-1990.// - Homeopathic Medicine Specialization 1 200 h
Nacional de Medicina y Homeopatía. Instituto Politécnico Nacional. México, City. 1987-1988.
- Homeopathic Medicine Certificate N° 00186
- Clinical Training in Magneto therapy and Metabolic Treatment with Prof. Dr.
Demetrio Sodi Pallares. México City. April 3 – 7, 1995.
---Neural Therapy Diploma. 200 hours training Diploma. Center of Integrative Medicine Research. Faculty of Medicine. Autonomous University of Guadalajara. 2006 – 2007.
- Basic Proficiency in Chelation Therapy. Certificate of Achievement in written
Examination. American Collage for Advancement in Medicine.
Phoenix, Arizona. 11 al 13 de November 11-14, 2002.
Update International Intensive Course in Clinical Toxicology in Mexico. American College of Medical Toxicology, Association of Medical Specialists in Clinical Toxicology of Mexico, AC, Toxicologic Center, Hospital Angeles Lomas Anahuac University. Huixquilucan, Mexico 29 - 31 May 2008. (30 hrs.)
ACTUAL RESPONSABILITIES AND OTHER ACTIVITIES:
President and Founder of the Mexican Ozonetherapy Medical Association. Since September 2005. (www.amozon.org.mx)
Ozonoterapia México S.A. de C.V. Medical-Director-since-2003. (www.ozonoterapiamexico.com).
MEMBER OF ISCO3

Dr. Gregorio Martínez-Sánchez (CUB)

Occupation: Senior Researcher

Office Address: Medinat srl. Via Fazioli 22, Camerano 60021, Ancona, Italy.

Telephones: +39 339 5372953 Fax. +39 071731928 E-Mail: gregorcuba@yahoo.it

Colleague Degree: Pharmaceutical Sciences, Honorific Graduate with Gold Stamp of the Pharmacy and Foods College, Havana University, 1990. Master in Sciences, Pharmacy and Foods College, Havana University, 1998. Ph. D. in Pharmacy 2001 with honors, Havana University.

Scientific Degree: Senior Researcher

He has participated in 27 career related to his specialty with outstanding results. He has presented 95 scientific contributions in 75 national and international congress. He has sent 24 scientific reports to the Food and Drug Administration Office. He has been tutor of 19 Diploma Projects for Bachelor Degree, 8 for Master degree and 5 for Ph.D degree. He has 136 scientific papers: 46 as abstract, 90 as extending manuscripts in international journals, 1 multimedia and 6 books. He was rewarded with the Havana University Annual Premium in 1995 and 1996 (Greater Economic Contribution) and in 2001 and 2002, 2005 (Human Health Contribution), 2006, 2008 (Top researcher). Active member of the Cuban Society of Pharmacology, International Society of Pharmacology, associated to the Cuban Toxicology Society, Society for Free Radical Biology and Medicine (a constituent member of the International Society for Free Radical Research), AEPROMO and ISCO3. He has worked in the different research programs (Drugs Develop, Drugs from Medicinal Plants, Drug from Biotechnology), participating as technical manage in pharmacological and toxicological evaluations of many drugs, cosmetic and pesticides as brasinoesteroids and monoclonal antibodies. He has been awarded in scientific events including a special mention and relevant prize (1996, 1998, 1999, 2000) in the National Forum of Science and Technology. He obtained the Counterfeiters "Forgers of the Future" in 1997, 2000 and 2002. The Cuban Academy of Sciences (ACC) granted the Dr. Gregorio with the Commemorative Currency "XXX Anniversary" as recognition of the scientific results. In 1999, 2002, 2004-2006, the ACC granted him a yearly prize.

Their research activity is centered in the study of the antioxidant effects of drugs in *in vitro* and *in vivo* systems, the search of its therapeutic applications and the implementation of clinical diagnostic biomarker of redox balance. It possesses theoretical experience in the field of the oxidative stress (Lectures in Cuba, Italy, Venezuela, Germany and Chile), and has technical experience in the study of the *redox status* at the level of: chemical reactions, cells and organisms. He spends a post doctoral training in Univ. of Milan, Italy (2000), in the Center for Research of Antioxidant Therapies (Humboldt grand), Germany (2004) and in the European Center of Oncology (Italy, (2006). Prize "Top Scientist 2008" by International Biographical Centre of Cambridge. Professor in charge for the curse "Pharmacology of the Oxidative Stress" by the Univ. of Politecnica dalla Marche (2004-2011).

Prof. Luisa Batilde Lima Hernández (CUB)

GRADUATE:
- Bachelor in Science in Pharmaceutical Biochemistry (1970)
- Specialist in Human Nutrition (1978)
- Ph.D. in Biological Sciences (Minimum) (1983-1987)
- Certified Diplomat in Natural and Traditional Medicine (2001)
- Certified Diplomat in Medical Habitat (2004)
- Master in Science in Bioenergetics and Natural Medicine (2007)

SCIENTIFIC CATEGORY: Senior Researcher (1984)

LECTURE CATEGORY:
- Associate Professor, Biology Faculty, University of Havana
- Associate Professor, Medicine Faculty "Enrique Cabrera" , Medical Sciences Institute of Havana.

GRADUATE STUDIES RECEIVED: 32; 12 abroad and 20 in Cuba.

GRADUATE COURSES TAUGHT IN CUBA AND ABROAD: 72
In the last 5 years a total of 22 postgraduate courses.

THESIS TUTORIAL:36

PARTICIPATION IN SCIENTIFIC MEETING: 104
Paper presented : 156

PUBLISHED PAPERS: International: 15, National: 40

ACTUAL RESPONSABILITIES AND OTHER ACTIVITIES:

- Secretary of the Cuban Society of Ozone Therapy
- Honor Member of the Spanish Association of Medical Professionals in Ozone therapy (AEPROMO)
- Member of the Cuban Society of Physical Medicine and Rehabilitation
- Member and active partner in José Martí Cultural Society
- Responsible for Obesity and Nutrition Consultation of the Rehabilitation National Center, Hospital Julio Diaz, Cuba
- Postgrade Courses Professor

Dra. Vivian Borroto Rodríguez (CUB)

INSTITUTION AND ADDRESS: Institute of Neurology and Neurosurgery (INN) remains silent 29, esq. to D, CP 10400, Havana, Cuba. E-mail: vivian.borroto@infomed.sld.cu
Profession: Medicine Doctor. Number of Professionals' Registration: 52975

CURRENT POSITIONS.

1. President of the Cuban Society of Ozonetherapy
2. Responsible for the Group of Natural and Traditional Medicine of the Institute of Neurology and Neurosurgery. Cuba
3. Investigator of the Department of Experimental Neurology of the Institute of Neurology and Neurosurgery. Cuba
4. Professor of the Latin American School of Medicine

MEDICAL FORMATION

1. General practitioner, graduated in 1991
2. First-Degree Specialist in General and Integral Medicine, graduated in 1995 in Cuba
3. Graduate in Traditional Asian Medicine 2004 in Cuba
4. Master in Natural Medicine and Bioenergetics, 2007, in Cuba.

RECEIVED COURSES RELATED WITH OZONETHERAPY

1. Training in ozone therapy, Service of Medicine Military Natural and Traditional Hospital, Carlos J. Finlay, 1998, Cuba
2. Basic study of ozone therapy, Ozone Research Center, 2001, Cuba.
3. Course for percutaneous discolysis with ozone. Center for Medical-Surgical Research, 2006, Cuba.
4. Medical ozonetherapy, Ozone Argentine Association, 2007, Buenos Aires, Argentina.
5. Infiltrations with ozone for handling of pain, Mexican Association of Ozonetherapy Faculty of Medicine of the University of Sinaloa, Culiacán, Mexico, 2008.
6. Pre congress Course: Antioxidants in foods, in Marco of the II Mexican Congress of Ozonetherapy Faculty of Medicine of the University of Sinaloa (FMUS), 2008, Mexico.
7. Pre congress Course: Antioxidants in Biological Media, at the II Mexican Congress of Ozonetherapy. Faculty of Medicine of the University of Sinaloa (FMUS) 2008, Mexico.
8. Post-meeting Course of Ozonetherapy Schools, in the Royal National Academy of Medicine: Qualification and upgrade in ozonetherapy: Basic and clinical aspects of the balance redox, Biochemistry of Ozonotherapy, Infiltrations with ozone for the handling of the pain, 2010, Madrid, Spain.

PUBLICATIONS IN LAST 5 YEARS:

1. Economic Impact of the Application of ozonetherapy in the National System of Health. 2010
2. Results and Projections of the National Center of Natural and Traditional Medicine for The Extension of ozonetherapy to The Primary Attention of Health and Services of Oncology in The National System of Health, 2010
3. Ozonetherapy in the Treatment of Microvarixes of inferior limbs.
4. Metabolic Syndrome and Obesity: A great risk for the health, 2010
5. Acupuncture and ozonetherapy in the Treatment of the Cocleovestibular Syndromes, 2010

All these topics are included in the book: Contribution to the Development of the Medical Hydrology, Thermalism and Chemical" Hydrogeology, in Contributions to the Natural and Traditional Medicine, for the Editorial Products and Geographical Services GEOTECH, with ISBN 959-7167-21-2, in the 2010.

Dra. Silvia del Carmen Díaz Llera (CUB)

PERSONAL INFORMATION:
Born: November 1st, 1949
Personal address:. 78 St. # 912, Playa, Havana, Cuba. Tel. (537) 23-39-15
Position: - Aux. Professor, Dept. of Pharmacology and Toxicology, Pharmacy and Food Institute, University of Havana, 23th Ave # 21425 entre 214 y 222, La Coronela, La Lisa, Havana, Cuba. Tel. 267 9207 Fax. (537) 260 3894, E-Mail: silvia@ifal.uh.cu, ssllera@infomed.sld.cu

EDUCATION:
- Bachelor on Biological Sciences, Biological Sciences Faculty, University of Habana, Cuba 1972.
- French Language graduated, L'Alliance Française de Cuba, Havana, 1976.
- Russian Language graduated, Training Faculty in Foreign Languages, University of Havana, 1984.
- Ph.D. on Pharmaceutical Sciences, Pharmacy and Food Institute, University of Havana, Cuba, 2000.

She has professional experience in Cell and Molecular Biology, and Genetics And Genetic Toxicology and is expert specialist in Genetic Toxicology of the CECMED (Cuban Center for Control and Evaluation of Drugs). She has presented more than 60 scientific and teaching reports in national and international meetings. She has supervised the research work of numerous first degree students as well as 7 master degree students and one Ph.D. Her research work is focused on the evaluation of the genotoxic and mutagenic properties of chemicals products. She has practical experience in different *in vitro* techniques such as Genetics of *Aspergillus nidulans*, peripheral blood lymphocyte culture, cytogenetics, micronuclei assay, sister chromatic exchanges and chromosomal aberrations as biomarkers of exposure of induced genetic damage, T-cell cloning and human *hprt* system as biomarker of effect. She also has experience in varios *in vivo* methodologies such as micronuleus test system in mouse bone marrow, peripheral blood and exfoliated mucous cells (rodents and humans); alkaline single cell gel electrophoresis assay (Comet assay) to detect DNA damage (DNA single strand breaks (frank strand breaks and incomplete excision repair sites), alkali-labile sites, and crosslinking) in eukaryote cells obtained from *in vitro* and *in vivo* studies induced by chemicals, endogenous or exogenous reactive oxygen spicies or ozone. The results of her scientific work on genotoxicologial evaluation of chemical products, drugs, natural products and therapeutical ozone have been published in peered national and international journals. Her work has been awarded in several occasions as the Award "For the Cuban Education", given by the Minister of Education, Dec 22/1990; the Award to the "Scientific Result of Highest Economical Significance" for being participant of the work: "BIOBRAS-16, a new Cuban bioregulator. Studies for its registration and marketing" given by the University of Havana, Jan 31/1997; and a honourable mention in the category of "Result already applied of greater benefits to social developments" given by the University of Havana, Jan 2000. Her Ph.D. thesis was distinguished as outstanding by the Pharmacy and Food Institute and the University of Havana. She is an active member of the Cuban Society of Toxicology and headed Mutagenesis, Teratogenesis and Carcinogenesis Section during seven years (1994-2001).

Dra. Ángeles Erario (ARG)

Biochemistry graduated in 2001 en la Universidad de Buenos Aires, Argentina.
Biochemistry of Rivadavia´s Hospital Emergency Department. Buenos Aires, Argentina
Member of Asociación de Bioquímicos Municipales de la Ciudad de Buenos Aires.
Member of Colegio de Bioquímicos de la Ciudad de Buenos Aires.
Fouding Member of Asociación Médica Argentina de Oxígeno Ozonoterapia (AMAOO).

Course contributor of "Curso de Postgrado Avanzado: Utilización del Ozono en Medicina". Buenos Aires University

Ex-teacher at the University of Buenos Aires.

Twelve post graduate courses

Author and co-author of twenty three papers on National and International Meeting.

Author and co-author of the following international journal´s papers

Heme Oxigenase-1 induction and dependent increase in Ferritin. A protective antioxidant stratagem in hemin- treated rat brain. **Developmental neurosciences 2002; 24: 161-168.**

Bilirubin and ferritin as protectors against hemin-induced oxidative stress in rat liver. **Cellular and Molecular Biology; 2002 48(8): 877-884.**

Role of heme oxygenase/carbon monoxide pathway on the vascular response to noradrenaline in portal hypertensive rats. **Clin Exp Pharmacol Physiol. 2005 Mar;32(3):196-201.**

Glutamine is highly effective in preventing in vivo cobalt-induced oxidative stress in rat liver. **World J Gastroenterol 2005 June;11 (23):3533-3538**

Dr. Héctor Pérez Saad (CUB)

Center of work and address: Institute of Neurology and Neurosurgery (INN) remains silent 29, esq. to D, CP 10400, Preserve, Havana, Cuba.
Email: hector.perez@infomed.sld.cu
Load that occupies: Boss of the Department of Experimental Neurology
Holding: Doctor in Medicine (University of Havana, 1969); Specialist of 1ro. and 2do. Grade in Clinical (1975, 1980, CENIC) Pharmacology; Scientific grade of Dr. in Medical Sciences (Ph. D) (1980, CENIC), with the thesis "A new morfino-dependence model in infantile" rats.
Scientific category: Senior Research
• Honorary member of the Cuban Society of Pharmacology.
• Member of the Cuban Society of the Society of Neurociencias of Cuba.
• Member of the Cuban Society of Ozonoterapia.
• President of Tribunal for the grant of Auxiliary Investigator's scientific category.
• Professor of the Master in Brain-vascular (INN) Illness and of the Master in Neurociencias (Center of Neurociencias of Cuba).
• Member of the Permanent Tribunal for the defense of the Doctorate in Medical Sciences and the Doctorate in Sciences of the Health.
Publications: More than 70 manuscript, between national and international, in the field of the experimental neurofarmacology and of the natural product
Main papers in the last years:
Jorge Daniel García Salman, Rosa María Choir Antich, Yuneidys So-and-so Fuzzes, Héctor Pérez Saad. I ozonize and neuroprotección: two model animales.7º Congress Virtual Spanish American of Anatomy Pathological Page 1 of 8. Of the 1 at October 31, 2005.

Pérez-Saad H, Urba-Holmgren R, Holmgren B. Pharmacological analysis of acute morphine dependence in infant rats: close molecular relationship of head-shaking precipitated by opiate antagonists and cholinergic neurotransmission. Arch Med Head. 1996 Summer;27 (2): 139-44.

Pérez-Saad H, Buznego MT, Llanio M,Fernández MD, Menéndez. R. Perfil neurofarmacológicode *Plectranthus amboinicus*(Lour.) Spreng. (orégano francés). Rev Neurol, 2002: 35.

Buznego MT and Pérez-Saad H. Acute effect of an extract of Ambrosia paniculata (Willd.)O.E. Schultz (mugwort) in several models of experimental epilepsy. Epilepsy & Behavior 5 (2004) 847–851.

Buznego MT, Pérez-Saad H. Behavioral and antiepileptic effect of acute administration of the extract of the aquatic plant Echinodorus berteroi (Sprengel) Fassett (upright burhead). Epilepsy & Behavior 9 (2006) 40–45.

Pérez-Saad H and Buznego MT. Behavioral and antiepileptic effects of acute administration of the extract of the plant Cestrum nocturnum Lin (lady of the night)Epilepsy & Behavior 12 (2008) 366–372.

Diana Garcıa del Barco, Héctor Pérez-Saad, Valia Rodríguez, Javier Marín, Viviana Falcón, Jorge Martín, Danay Cibrian, Jorge Berlanga. Therapeutic Effect of the Combined Use of Growth Hormone Releasing Peptide-6 and Epidermal Growth Factor in an Axonopathy Model. Neurotox Res. DOI 10.1007/s12640-010-9160l.

Dr. Nabil Mawsouf (EGY)

- Professor, Department of Anesthetics, ICU and Pain Management, National Cancer Institute, Cairo University, Egypt.
- Head of Ozone Therapy Unit (For Treatment, Training and Research), National Cancer Institute, Cairo University, Egypt.
- Ozone Therapy Consultant, Military Rehabilitation Center, Cairo Egypt.
- Ozone Therapy Consultant, Naval Research Institute, Alexandria Egypt.
- Ozone Therapy Consultant, Sultanate of Oman.
- Consultant and Referee for evaluation of medical researches and scientific papers for World Health Organization (WHO) in the field of Pain Management and Complementary Medicine.
- Chairman of the Egyptian Medical Society for Ozone Therapy and Complementary medicine.
- Vice President of The International Scientific Committee of Ozone Therapy (ISCO3) - Spain.
- Vice President of Asiatic-European association of ozone therapists and manufacturers of equipment for ozone therapy.
- Vice President of International Medical Ozone Federation (IMEOF).
- Vice President of the Arab Society of Complementary Medicine
- One of the pioneer doctors in Ozone Therapy in Egypt, and was able to get the approval of Ozone Therapy as a line of treatment by the Ministry of Health in Egypt in December 1999.
- Member of Spanish Association of Medical Professionals in Ozone Therapy (AEPROMO) and International Ozone Association (IOA) and German Medical Society for the Use of Ozone in Prevention and Therapy and The European Cooperation of Ozone in Medicine Societies.
- One of the pioneer doctors in the Pain Management speciality in Egypt since 1981.
- Member of the International Association for the Study of Pain (USA), member of Middle East Society for the study of Pain and member of the Egyptian Society for the Study of Pain.
- Accomplished many researches in the field of Pain Management and Ozone Therapy.
- Supervised many Doctor's and Master's and Doctors Degrees in the field of Pain Management and Ozone Therapy.
- Author of one book in pain management (Pain) written in Arabic language.
- Expert in Acupuncture, Cold Laser and Electrotherapy uses in pain management.

Dr. Sergey Peretyagin (RUS)

Date and Place of Birth: April 5, 1946, Kirov, Russia.
Current business Address: Nizhny Novgorod Scientific Research Institute of traumatology and orthopedics, Head, department of Experimental Medicine, 603155, Nizhny Novgorod, Russia
Phone: (831)436-25-31 **Fax:** (831)436-05-91 **E-mail:** psp_aro@mail.ru
CITIZENSHIP: Russia

EDUCATION AND DEGREES :
1991: Dr. Medicine Sci.
1976: PhD.
1998, 2004: Specialization for traumatology and orthopedics
1964-1970: Physician, Pediatric Faculty of Gorky State Medical Institute, Russia
Academic rank: Professor (2004)

EMPLOYMENT:
From 1997- Head department of Experimental Medicine 1994-1997- Vice-Head Doctor of Nizhny Novgorod Diagnostic Medical Center for scientific and educational work
1987-1993- Head of the Central Scientific Research Laboratory of Nizhny Novgorod State Medical Academy.
1977-1987- High Research Assistant, Head of Department of the Central Scientific Research Laboratory of Nizhny Novgorod State Medical Academy.
1974-1977- Assistant of the course of anaestesiology of the General Surgery Department, Medical Faculty of Mordovia State University.
1972-1974- Service in Soviet Army, Doctor.
1970-1972- Doctor-Ordinator of Burn Center of Gorky Institute of traumatology and orthopedics.

PROFESSIONAL MEMBERSHIPS AND SERVICE:
Member, International Academy of the authors of scientific of discovery and inventions.
Member, European Academy of Natural Sciences.
Member, Problem Committee "Thermal Injury" in Scientific Council of Russian Health Protection Ministry.
Member, Special Dissertation Council D 212.117.08 of Mordovia State University.
President of Russian Ozone Association.

RESEARCH INTERESTS:
Main theme: Pathogenesis, Clinic, Treatment of Burn Disease; Using Ozone and of the Active Form of Oxygen.

TEACHING EXPERIENCE: From 1992 Regular organization of Conference "Ozone in Biology and Medicine" (8)
From 1994: Organization of studying courses "Basis of Ozonetherapy".

AWARDS AND GRANTS:
Author of 1 discovery, 20 patents, published more than 250 print abstracts, 20 rationalization proposals.

Dra. Rafaela Mego Benites (MEX)

Merida No.170 Col. Roma C.P.06700 México D.F. rafaelamego@hotmail.com
Tel. 55648678 Movil: (044) 5514994290

Education:
Spine Surgery: Hospital "Dr. Germán Diaz Lombardo" 2004-2005
Neurosurgery, "Juarez Hospital of Mexico," 1991-1995
General Surgery: "Regional General Hospital", Leon, Gto. 1987
General medical: Universidad La Salle, Mexico City 1985
Education: Ozone
Ozone therapy training program in basic, intermediate and advanced: AC Mexican Association of Ozone Therapy.Culiacan, Sinaloa 2011
Diploma in Ozone therapy: International Federation of Ozone Therapy Oxygen. Mexico, City 2009
Course Ozone: Ozone Research Center Cuba 2007
Training and clinical care:
Resident Medical Specialty: Neurosurgery
-National Institute of Neurology and Neurosurgery (two years), Mexico, City.
-Hospital Juarez de Mexico (four years), México, City.
-National Medical Center Siglo XXI, IMSS - skull base surgery (four months) Mexico, City.
-La Raza Medical Center, IMSS - Cerebral Vascular Surgery (four months), Mexico, City.
-Magdalena de las Salinas Hospital Orthopaedics, Surgery and Skull
Column (six months) Mexico, City.
-Insurance: Insurance Banorte, Atlas Insurance, Axa Insurance,Mexico, City.
-Experience with ozone: Medica Biozone, Col. Santa Fe, DF (private) 2006-2009
-Founder and Director of the Clinical Neuro-Bio-Ozone, Mexico City 2010
International and National Conferences: Ozone
Graduate centers of excellence AC Autonomous University of Puebla, "Discolysis and back pain", Puebla, Pue., 2011
7 ° International Symposium of Biological Medicine Clinical Medicine: "New advances in conservative treatment of herniated disc", Guadalajara, Jal. 2010
A new alternative for disc herniation of tratament with oxygen-Ozonotherapy. 32nd Annual Scientific Meeting. American Academy of Neurological and Orthopedic Surgeons. Reno, Nevada USA in June, 2008
First International Scientific and Technological Advances in Oxygen-Ozone Therapy: Ozone and colchicine herniated disc, Mexico City 2008
Presentation of research project to the Ministry of Health Mexico, for the application of institutional-level ozone, Mexico City 2008
Conference for the dissemination of knowledge of ozone therapy in disc herniations, held at the. National Institute of Neurology and Neurosurgery 2008
World Congress of Oxygen-Ozone, Bergamo, Italy 2007
Poster Presentation "Effectiveness confirmed Colchicine treatment, Ozone and physical therapy in the management of pain of herniated disks. AMETD (Mexican Association for the Study and Treatment of Pain AC) 2007
Experience with Ozone and Colchicine, University of Guadalajara
Participation in the program as a specialist Trust Dialogues, TV Once "What is Ozone?" 2007
Supplementary data:
Recognized nationally and internationally as a researcher in the use of ozone therapy for herniated disc.
Member of the Mexican Association of Ozone and belonging to the Medical College of Peru
Publications has participated in national and international journals.

Dr. Ramiro Ramírez Gutiérrez (MEX)

Graduate from the first medical institute of Moscow - Russia - 1975-1978
Specialization at the first institute of neurosurgery of Moscow - 1980
Specialization at the karolinska institute of stocolm - Sweden - 1980
1. Member of the bolivian society of neurosurgeons
2. Member of the bolivian academy of medical history
3. Founder and first president of the bolivian association for studies on pain
4. Member of the bolivian association of pain
5. Member of IASP
6. Member of the latinamerican federation of neurosurgery
7. Member of the world federation of neurosurgery
8. Member of the world federation of oxygen ozone therapy
9.adherent member of the bolivian society of neurosurgery
10.vice president of the neurological surgical society of the southern cone

PUBLISHED PAPERS

1. Trepanations and Craneal Deformities in Tiwanaku. Revista Sociedad Boliviana de Cirugía. Vol. 2 No. 2, August 2000, pages 93-97
2. Ozone Therapy to Resolve Disc Space Infection. Spondylodiscitis. Ossigeno Ozonoterapia Vol. 5 No. 2, October 2006, pages 117-121
3. HEAD STROKE in the Iliad. Revista Chilena de Neurocirugía,Vol. 25, 2005, pages 53-56
4. Precolumbian Trepanations. Revista Chilena de Neurocirugía. Vol. 22, 2004, pages 85 -88
5. Initial Experience of Oxygen Ozone Treatment for Disc Herniation. Revista Italiana di Ossigeno Ozonoterapia. Vol. 5, No. 1, April 2006, pages 17-20
6. Pharmacological and Physiological Principles in the Action of the Oxygen in the Treatment of Herniated Disc. Revista Sociedad Boliviana de Neurologia, Año 4, No. 1, July 2006, pages 23-27
7. Precolombian Trepanations. Revista Sociedad Boliviana de Neurología. June 2007, Pages 16-20
8. Precolombian Trepanations, Aproximations to Paleontology in Latin America. Convenio Andrés Bello, Colombian National Academy of Medicine. September 2007, pages 121-124
9. Treatment of the Radicular Compression with Ozone Therapy. Bolivian Pioneer Experience. Revista Chilena de Neurocirugía, 2007, pages 46-49

Participation as lecturer in different meeting.

Dr. Fernando Kirchner (SPA)

Specialist in orthopedics and Traumatology, microsurgery and Reimplantes, teaching authorized UBA and UAB Collegiate (col med Barcelona) 25837, German passport: 3551284181.

-Assistant Professor of Anatomy, Faculty of Medicine (UBA), 1975, dedic. simple.
-Director of the laboratory apparatus locomotive of the first Chair of Anatomy Normal, Faculty of medicine, Univ. of Buenos Aires, 1976-1981.
-Director of the laboratory of Anatomy of the apparatus locomotive, 1979 until 1982.
-Secretary of Commission of investigation of Soc.Argentina surgery of the hand, (nov.1981)
-Director of the school of Anatomy "Dr. Elbio p. Cozzi" since January 1984-1992.
-"Anatomical research on the irrigation of the peripheral nerve" Rapporteur "in microsurgery International Symposium" 7 to October 11, 1984.
-Director of the "Exhibit anatomical on the nerve peripheral in the adult and in specimens fetal" at the symposium from 7 to 8 October in Buenos Aires, 1984.
-Concurrent to the University Klinikni Center Ljubljana in Yugoslavia during 3 months, September. 1986.
-Concurrent German society of plastic surgery (Dr. Olivari), September 1986.
-Obtaining Prize nullifies giving society American of surgery of the hand, to the best job in the world (Emmanuel Kaplan Price). Baltimore (Maryland, USA), 14-17 September 1988.
-Member honorary society Spanish of the surgery of the hand.
-Director of the exhibition of the anatomy of the Carpus, the Congress International Hispano-Italiano of surgery of the hand, 1989.
-Assistance to the Hospital for Special Surgery, New York, February 2000 "Advance Knee Surgery".
-Participation in the "23 International[Dr]." " Course for Percutaneous endoscope Spinal Surgery and Minimal Invasive Techniques", Zurich, 27-28/1 2005.
-7 Th UK Hands - On Cadaver Workshop on Interventional Pain Producedures - University College London. 27-28/6 2008.
-Founding member of the Spanish Association of medical professionals in ozone theraphy - AEPROMO, October 2008.
-Director in the first days of ozone therapy of the Maresme, held in CALDES D'ESTRAC. November 15, 2008.
-Participation in the course "Advances in treatment of vertebral fractures", approaches minimally invasive, Madrid, 27-28/3 2009.
-Participation in international training in ozone therapy course, held in Havana, Cuba, during the 25th to 29th May 2009.
-Member of the Board of Directors of AEPROMO, as Chairman of the Committee on research and teaching (in Office)
- "I ozonated Platelet-Rich Plasma seminar", in the program of continuous training, Valencia-may-2009.
-Participation as a speaker at the International Congress "New horizons for the ozone", Pontevedra, Spain, 5-6/6 2009.
-Teacher of the practical Conference of the Internat. Conference "New horizons for the ozone", Pontevedra, Spain, 5-6/6 2009.
-Seminar "Ozonizada Platelet-Rich Plasma" (PRP-03), Col. Médicos de Valencia, Spain, 3/10 2009.
-Professor in the intensive course of ozone, organized by Aepromo, 18-23/1 2010, Madrid. "The ozone therapy in Traumatology: spine and upper and lower extremities"
-Rapporteur "meeting international schools of ozone", Real Academia Nacional de Medicina, Madrid 3-4/62010. "The anatomy of Andreas Vesalius in the 21st century: new techniques with ozone therapy".
-Participation in the document of the Madrid Declaration about ozone therapy on therapeutic topics in minimally invasive on spinal procedures.
-III Congress World of O-Ozonoterapia of the World Federation of O-Ozonoterapia (WFOOT) and V National Congress of the Federation Italian of O-Ozonoterapia (FIO). Brescia, Italy, 14-16/4 2011.
-Director and Professor, theoretical and practical course of O3 and Infilt. Ecoguided Traumat, Madrid, 10-11/6 2011.
-"Barcelona Knee Symposium - 7th Barcelona Conference on knee", 28-29/10 Barcelona 2010.
-Medical performance with ozone therapy and Plasma rich in proteins in outpatient of Gabinet Medic Maresme, Mataró, since the year 2000, and in operating room since 2007 in médicos-quirúrgicos centres in Catalonia.
-Application of Plasma rich in protein Ozonizado in spine (cervical and lumbar) in the operating room with technique of discolisis for the treatment of Herniated discs from December 2010.

Dr. Joaquín Cabot (SPA)

Specialist in Orthopedic Surgery and Traumatology

Date of birth: March 1, 1950
Professional address: COTA, Chiron Clinical practice. c / Mare de Deu de la Salut, 78 4 º, b. Barcelona, Spain. 08034
Phone: 34932199451 Mail: 9152jcd@comb.es

Doctor in Medicine and Surgery and a specialist in Orthopedic Surgery and Traumatology develops his professional activity in the Hospital of Bellvitge (Spanish National Social security) Barcelona, as Boss of the Knee and Arthroscopy Unit and his private practice. COTA Hospital Quiron of Barcelona.

His professional orientation in orthopedic surgery and traumatology is especially centers in the area of knee surgery and arthroscopy, as well as the arthroplasty.

• Responsible Chief of the arthroscopy department and knee surgery at the University Hospital of Bellvitge since October 5, 1994.

• President of the Spanish Association of Arthroscopy in 1992 and President of the Spanish Society of Knee in 1993.

Member of numerous scientific societies such as the Spanish Society of Orthopedic Surgery and Traumatology (SECOT), International Society of Knee Surgery Arthroscopy and Sports medicine (ISAKOS), European Society of Knee surgery and Arthroscopy (ESKA).

• He has presented over 300 communications and presentations in scientific sessions.

• At the present time he dedicates part of his activity to study new therapies of the muscle-skeletal pain without surgery, such as: growth factors, ozone therapy and Prolotherapy.

Dra. Adriana Schwartz Tapia (SPA)

Medical Doctor. Rusia (1980)

• Gynecologist - obstetric. Rusia. (1983).

• Recognized as Medical Surgeon in Chile (1988), Spain (1999) and Colombia (2008).

• Diploma in Traditional Medicine in China (2000) and Homeopathy (2009).

• Has worked in Africa, America, Asia and Europe with different intergovernmental agencies and UN.

• Founder and director of the Clinic Fiorela - Pain Therapy Center, Madrid

• Founder Clinical Institute of Investigations Fiorela Honduras

• Languages: Spanish, English, French, Portuguese and Russian

• Founding member and President of the Spanish Association of Medical Professionals in Ozonetherapy – AEPROMO

• President of the International Medical Ozone Federation (IMEOF) (www.imeof.org).

• Scientific Secretary of the International Scientific Committee of Ozonetherapy (ISCO3) (www.isco3.org).

• Professor of AEPROMO.

Dr. Gennady O. Grechkanev (RUS)

Professor of the Department of Obstetrics and Gynecology at Nizhny Novgorod State Medical Academy (NNSMA).
Is the author of more than 200 scientific publications in obstetrics and gynecology. In 2004 he got his MD degree and in 2007 – received the academic title of Professor.
His primary research and clinical interests are up-to-date non-drug treatment methods for obstetrical complications and gynecologic diseases, including Ozonetherapy.
G.O. Grechkanev is a co-author of the monograph "Ozone technologies in obstetrics and gynecology" (2007). He holds 5 patents in the field of Ozonetherapy.
Grechkanev G. O. participated in 6 All-Russian conferences "Ozone and the efferent methods of treatment in medicine" and in 5 World Congresses and international conferences presenting scientific papers.
Under his scientific guidance nine PhD dissertations have been defended and one doctoral thesis is completed.

Dr. Ramiro Alvarado (BOL)

NEUROSURGEON

1.-Graduate from First Moscow Medical Institute 1975

2.-Specialization in Neurosurgery at Neurosurgery Clinic of Moscow First Medical Institute from 1975-1978

3,-Specialization in Neurosurgery at Karolinska Institute in Stockholm Sweden

4.-Member of the Bolivian Society of Neurosurgeons

5.-Member of the Bolivian Academy of Medical History

6.-Founder and First President of the Bolivian Association of Study Pain

7.-Member of the Bolivian Association of Pain

8.-Member of the Latinoamerican Federation of Neurosurgery

9.-Member of World Federation of Neurosurgery

10.-Member of World Federation of Oxygen-Ozone Therapy

11.- Adherent Member of the Bolivian Society of Neurology

12.-Vice President of Neurological Surgical Society of the South Cone

13.-Editor of Bolivian Pain Journal (Revista Boliviana del Dolor)

Published Papers (the most Important)

1.-Trepanationand Cranial Deformities in Tiwanaku *Revista Socieda Boliviana de Cirugia*

2.-Ozono Therapy to Resolve Disc Space Infection Spondylodiscitis *Rivista Italians de Ossigeno-Ozonoterapia*

3.-Initial Experience of Oxygen Ozone treatment for Disc herniation *Rivista Italiana de Ossigeno Ozonoterapia*

4.-Treatment of the Radicular Compression with Ozone Therapy *Revista Chilena de Neurocirugia* 2007

Participation as Lecturer in Different Convention specially in Latino American Congress of Neurosurgery

Dr. Jaime Rebeil Félix (MEX)

1. - Anesthesiologist and pain managemente specialist.
2. - Head of general hospital pain clinic in hermoisillo sonora Mexico.
3. - Professor of the course "ozone infiltrations for pain management" given by Ozonoterapia Mexico and the Mexican Association of Ozonetherapy and endorsed by Universidad Autonoma de Sinaloa School of Medicine.
4. - Professor of the course "special ozone injections for spine pathology" given by Ozonoterapia Mexico, Mexican Associaton of Ozonetherapy and endorsed by Universidad Autonoma de Sinaloa School of Medicine.
5. - Professor of the program of ozone trainning (advanced level) given annualy by Ozonoterapia Mexico, the Mexican Association of Ozonetherapy and endorsed to the Medicine School at the Autonomous Sinaloa University.
6. - Secretary of Mexican Association of Ozonetherapy.

Dr. Carlos Amador Cobas Santos (CUB)

Afiliation: Hermanos Ameijeiras General Hospital. Havana, Cuba.
Address: San Lázaro # 701 Belascoaín. Centro Habana. Havana, Cuba.
E-mail: carlos.cobas@infomed.sld.cu
Professional Record Number: 61753

Medical formation

- Doctor in Medicine.
- Specialist in Anesthesiology and Reanimation.
- Specialist in Intensive Care. Master in Medical Emergency.

Current positions.

- Director, Pain Management Unit and palliative care, Ozonetherapy Department.
- Assistant Professor of Anesthesiology and Reanimation.

- Member of the Cuban Society of Anesthesiology and Reanimation (SCAR).
- Member of the Cuban Group of Pain
- Member of the Cuban Society of Ozone therapy.
- IASP

Publications: More than 25 papers, including national and international, in the field of the Anesthesiology, reanimation, and study and treatment of pain.

Topic of the main papers in the last years:

- Diagnostic of the encephalic death in the intensive care.
- The laryngeal mask airway ProSeal in urgency of patient with traumatism of inferior limbs.
- Combined ozone therapy in the treatment of the patient with lumbar herniated disc
- Ozone therapy intradiscal in the treatment for lumbar herniated disc.

Dr. Ofir Betancourt (VEN)

Spine Surgeon - Traumatology Ozone therapeutist
Vicepresident of the Venezuelan Society of Ozone Therapia (SOVEOT).
Education
1993- Spine Surgery. Overseas Visiting Orthopaaedic Registrar Birmingham. Univertity Institute of Orthopaidies. Oswestry Shropshire England. Dir. Prof.B.J.O. O'connor.
1987– Orthopaedic Surgeon. Specialist in Orthopedics. Hospital "José Maria Vargas". Caracas-Venezuela.
1979 - Surgeon. Universidad de los Andes. Mérida - Venezuela.
Languages
Spanish/ English.
Courses
Cellular Therapy. Biotecnochemistry. Caracas Venezuela.
Advanced training program in ozone therapy (Autonomous Sinaloa University). México.
III World Congress of Oxygen Ozone Therapy. Brescia Italia.
XIII International Conference on Management of the Spine. Colombian Society of Orthopedic Surgery and Traumatology. Bogotá Colombia.
Endoscopic Percutaneous Disc Decompression using Endoscopyc Spine Surgery System Wolf, according to Dr. Yenng-Yeff. Universidad el Bosque. Clinica Reina Sofia. Bogota Colombia.
Disceptomia percutaneous spinal pathologies.Hospital Frank Pais. Havana, Cuba.
Treatment and surgery in pathologies of the spine. Hospital La Española. Montivedeo Uruguay.
Specialty day meeting, Federation of spine associations. New Orleans. L.A.
X Cuban Congress of Orthopedics and Traumatology II International Seminar on joint replacement surgery of hip and II International Seminar bone minifijacion. ORTOP. Habana Cuba.
XVII International Congress day I orthopedics and traumatology Dominican - Venezuela. Republica Dominicana.

Medical and scientific societies

Founding member and vice president of the Venezuelan Society of Ozone Therapy
Member of the Venezuelan Society of Traumatology and Orthopedics.
Member of the American Society of Traumatology and Orthopedics.
Member of the British Society of Traumatology and Orthopedics.
Member of the American Academy of Orthopaedics.
Member of the Mexican Association of Ozonetherapy

Dirección: **Centro Médico Ribadeo**, Av. Principal Lecherías. Edo. Anzoátegui. **Edf. Torre Casa Centro**, Alta Vista. Pto. Ordaz. Edo. Bolívar. **Clínica Jesús de Nazareth**. Cantaura.
Teléfono: 00(58)-281-5113292 /414-8382874
Correos: ofirbetancourt@gmail.com/ ob_columna@hotmail.com/ ww.ofirbetancourt.com

Dr. Aníbal Grangeat (ARG)

Specialist in neurosurgery, graduated in 1970 at the Catholic University of Cordoba, Argentina. Neurosurgeon of many medical institutions in Buenos Aires, including Rawson Hospital, Fernandez Hospital, San Isidro Hospital, British Hospital and Argentine Institute of Diagnosis and Treatment.

Member of FIO (Federazione Italiana di Ossigeno Ozone)

Member of the ABOZ (Brazilian Association of Ozone Therapy)

Founding member of the AMAOO (Asociación Médica Argentina de Oxígeno Ozonoterapia)

Member of SEOT (Spanish Association of Ozone Therapy).

Honorary Professor of Argentine Society of Phlebology and Lymphology.

Ozone attendance centers in the cities of Bergamo and Brescia, Italy. March 2004.

Accreditation of SIOOT (Societa Italiana di Ossigeno-Scientifica Ozone Therapy). October 2003.

Accreditation of the Ministry of Higher Education of Cuba, through the National Center for Scientific Research in Cuba, for medical applications of ozone therapy. April 18, 2003.

Ozone Basic Course given at the Ozone Research Center in Cuba. 14-18 April 2003.

Concurrent with Dr. Portela, Chief of Orthopedics and Traumatology Clinic Ruber, Madrid, Spain. March 2002.

Attendance at the Department of Orthopedics and Traumatology Clinica de la Concha, Fundación Jiménez Díaz, Madrid, Spain. March 2002.

Author for more than 30 papers on ozone presented in conferences, congresses and academic courses in Argentina and abroad.

Dra. Mirta Copello Noblet (CUB)

General Nurse: 1964
Nurse Specialist in Anesthesia 1966
Dr. in Medicine 1985
Junior Specialist in Ophthalmology 1988
Senior Specialist in Ophthalmology 1996
Master in Satisfactory Longevity 2010

Papers Presented at National Meeting 286
Papers Presented at International Meeting 83

President of the State Court to Evaluate Candidate to 1st grade Specialist 33
President of the State Court to Evaluate Candidate to 1st grade Specialist 43

Researcher activity
Research project 19
Manuscript 23
National post graduate courses received 41
Internal post graduate courses received 15

Teaching
Instructor of the Institute of Medical Sciences 1989
Assistant Professor, Institute of Medical Sciences 1996
Assistant Professor Institute of Medical Sciences 2003.
Lecture in National Courses 15

Awards
Recognition for work of 23 results
Scientific awards, 12 papers
Research and Teaching (two awards of the Cuban Academy of Sciences)
Diploma to the Honor in Higher Education 2010

Scientific Societies Membership 9

Member of ISCO3 – International Committee of Ozone Therapy

Dr. Heinz Konrad (BRA)

Physician, graduated from Santa Casa School of Medicine in Sao Paulo, Brazil, in 1972 and also studied at St. Mary's Hospital and Medical Center in San Francisco, California, USA.

Residency in General Surgery

Residency in Gynecology and Obstetrics

Introduced ozone therapy into Brazil in 1975

During 11 years, member of Pain Clinic of Santa Casa de Sao Paulo Hospital

Visiting Doctor at the Pain Clinic of the Cook County Hospital, Chicago, USA

Visiting Doctor at the Pain Clinic of the Cleveland Clinic Foundation, Cleveland, USA

Title of Master in Medicine by Santa Casa School of Medicine in Sao Paulo, Brazil

Member of IOA – International Ozone Association

Member of German Medical Society for Ozone Therapy

Founding member of ABOZ – Brazilian Ozone Therapy Association

Member of ISCO3 – International Committee of Ozone Therapy

Dra. Nora Bazzano Mastelli (ARG)

Dentistry at the University of BsAs. Graduated (1964) from the Dental School.

Certified Specialist in Orthodontics M. Health(prov. Chubut) Argentine)

Certified specialist in Oral Cytodiagnosis Brooklyn USA DDS USA
Prevention in dentistry courses From 1970 to 2005.
2001 First course of ozone therapy in dentistry in Switzerland and Copenhagen

Start the Ozone Research
2002. We start a research group: the use of ozone for medical- dental field: Odonto3
2006 Starts odonto3 use practices in dentistry
2007 launches scientific paper presentations in Cuba and Argentina
2008-2009 Lecturer : Ozone in Oral Medicine; at post grade School of Medicine BsAs and Autonomous University of Guerrero, Mexico, and the Congress of the 80th anniversary of CORA Dental Confederation Argentina
2009-2010 Lecturer in BsAs Univ School of Medicine, Dental Salon de Chile and the conference in Havana Cuba
Training Group Argentina-Chile, research and development of GO3system.

Courses: in the clinic and Dental Colleges in circles and inside the country (Argentine)
Ozone Therapy Lecturer for graduate dentists in October 2010 in Chile CEAESO
2011 Lecturer in postgraduate courses at the clinic GO3 system.
May 2011 dental conferences in Chile 2011 SalonDental:

Ozone in a dental office?
Go3 whitening,
Ozone therapy in surgery and implants.

Live demonstrations (video transmition)
June 2011 10 years with ozone therapy: Working with Dr. Julian Holmes in London and in Madrid with Dr Adriana Schwartz Tapia.
Presentation Go3system:August 2011 at Expodent Cordoba Argentina -

Dr. Robert Harris (USA)

1963-1967 Bachelor of Arts, Biology- University of Louisville

1967-1971 Doctor of Dental Medicine- University of Louisville School of Dentistry

1971-1973 Captain- United States Army Dental Corps

1973-1974 Faculty- University of Louisville School of Dentistry

1974-Present Private Practice of Dentistry

1998-1999 Graduate- Capital University of Integrative Medicine (CUIM)

2000-2005 Faculty- Capital University of Integrative Medicine

Assistant Professor- Department of Integrative Dental Medicine

Assistant Professor- Department of Integrative Natural Medicine

Dean of Academic Affairs- CUIM

Co-Chairman of the Scientific Review Committee

of The Institutional Review Board (IRB)

of Capital University of Integrative Medicine

2005 Professor Emeritus CUIM

2003 Co-Founder- The American College of Integrative Medicine and

Dentistry (ACIMD)

2003-Present Board of Directors-The ACIMD

2003-Present Chairman- The Scientific Review Committee of The IRB of

The ACIMD

2003-2007 Board of Directors- American Academy of Craniofacial Pain (AACP)

2008-Present Board of Directors- International Association of Oral Medicine and Toxicology

He has lectured Nationally and Internationally on multiple dental medicine topics. He is a nationally and internationally recognized speaker on the use oxygen/ozone in dental medicine.

Dr. Phill Mollica (USA)

Graduated from the University of Medicine and Dentistry, New Jersey Dental School in 1983.

Residency in Oro-Facial Pain at NJDS finishing: 1984.

Completed Master's Degree in Human Anatomy at Fairleigh Dickinson University, School of Dentistry completed: 1979.

Completed Doctorate in Integrative Medicine and Naturopathic Medicine from Capital University of Integrative Medicine: 1999.

Emeritus Professor of Integrative Medicine at Capital University of Integrative Medicine.

Currently is President and Professor at the American College of Integrative Medicine and Dentistry.

Has lectured around the world and authored text on Integrative Biologic Dental Medicine and Oxygen/Ozone Therapy in Dental Medicine.

Is one of the most active continuing education lecturers in the dental international community.

Lecturing over 30 courses per year.

Dr. José Carlos Jiménez Ortega (MEX)

Nationality: Mexicana
Marital Status: Casado
Address: 2 Poniente No. 3517, Col. Amor C.P. 72140, Puebla, Puebla, México
Office Phone: 248 18 51
Personal Phone: 22 23 51 70 16

Academic
(Approved in Spain. Junio 2006)

Medical Degree. Universidad Popular Autónoma del Estado de Puebla. México. 2001.
Ph.D. Biotechnology. Universidad Pablo de Olavide de Sevilla. 2009. *Specializing in Mitochondrial Diseases and Molecular Diagnostics.*

Work Experience

Comprehensive Center Cell Regeneration. Medical Director. June 2011 to the Present.

National Medical Center of Molecular Biology. Department of Applied Medical Molecular Biology. May 2010 to the present.

Trainee Research Staff, University Pablo de Olavide. From December 2005 to November 2009.

Other Information of Interest

International Publications

1. "Doctoral tesis". Complementation and functional genomic human gene in yeast COQ4 as a model for molecular diagnosis in diseases with primary deficiency of coenzyme Q. 2008
2. "Bichemical and Biophysical Comunitacions". Functional chararacterizacion of human COQ4, a gene required for Coenzyme Q10 biosynthesis. 2008

Dr. Héctor Enrique Velázquez González (MEX)

Studies:

Medical Doctor, UABC		1979
Masters in Biomedical Sciences	UNAM	1984
Specialty Immunology, Tokyo, Japan		1993
Doctorate in sciences of the education	UIA	1999
Masters in Sciences of the health	UABC	2003
Doctorate in Medical Sciences	UABC	2011

Course of ozone therapy, Havana, Cuba		2001
Mexican association of Ozone therapy	UAS	2002
Fellow ship in Homo toxicology	UAM	2003

Professional experience:

Area of interest:

Sexual and blood transmission disease especially HIV and VHB, VHC.

Allergy and atopic disease

Neurodegenerative disease

Teacher in full time in Medicine Faculty, UABC, Mexicali, Mexico 1984-2011

Training teacher in the advanced courses Mexican Association in Ozone therapy 2004-2011

Dr. Frank A. Shallenberger (USA)

Frank A. Shallenberger, MD, HMD. 1231 Country Club Drive Carson City, NV 89703 775-884-3990
E.mail: doctor@antiagingmedicine.com

Education
1973-74 Surgical Residency, Mt. Zion Hospital and Medical Center, San Francisco, CA
1973 Doctor of Medicine, University of Maryland School of Medicine, Baltimore, MD
1969 Bachelor of Science, University of Arizona, Tucson, AZ

Professional Societies: American Academy of Ozonotherapy // Society of Orthomolecular Health Medicine // American College for the Advancement of Medicine // American Academy of Anti-Aging Medicine // Nevada State Homeopathic Medical Association // American Preventive Medical Association
Certification: National Board of Medical Examiners // Licensed Medical Doctor, State of Nevada // Licensed Homeopathic Medical Doctor, State of Nevada // Board Certified Diplomat of The American Board of Anti-Aging Medicine
Teaching Experience: 1984-1986 Professor Human Nutrition, John F. Kennedy University, Orinda, CA// 1980-1982 Clinical Instructor of Family Medicine, U.C. Davis School of Medicine
Positions Held
2010-present President, American Academy of Ozonotherapy
2007-present Vice President, Society of Orthomolecular Health Medicine
2002-2003 President of The Nevada Homeopathic and Integrated Medical Association
1995-2007 Medical Advisory Board, Society of Orthomolecular Health Medicine
1998-2002 Vice President, Nevada Homeopathic and Integrative Medical Association
1993-2001 Member of Nevada State Board of Homeopathic Medical Examiners
1989-1995 Founding Director, Medical Advisory Board, International Bio-Oxidative Medicine Foundation
1986-1989 Medical Board of Directors, Huxley Institute for Biosocial Research
1986-1987 Secretary, Orthomolecular Medical Society
1980-1983 Member, Family Practice Committee, Mt. Diablo Hospital, Concord, CA
1976-1980 Member, Emergency Medicine Committee, Mt. Diablo Hospital, Concord, CA 1976-1980 Medical Advisor, Contra Costa County Paramedics
Scientific Publications
Shallenberger, Frank. The Principles and Application of Ozone Therapy – A Practical Guideline For Physicians. Amazon Press. April, 2011.
Shallenberger, Frank. Prolozone – Regenerating Joints and Eliminating Pain. *Journal of Prolotherapy*, Vol 3, No 2, May 2011
Shallenberger, Frank. The Energy Deficit Theory of Aging and Disease. *The Original Internist*, March 2008. Vol. 15, Number 1
Shallenberger, Frank., Paradigms and Miracles: Alternative Medicine at a Crossroads, *Journal of Orthomolecular Medicine*, Vol. 13, Number 1
Shallenberger, F., Bocci, V., Institute of General Physiology, University of Siena, Treatment of AID Syndrome with Ozonated Autohemotherapy, *European Cytokine Network*, Special Issue, March 1995
Shallenberger, Frank., Selective Compartmental Dominance: An Explanation For A Noninfectious, Multi- factorial Etiology for AIDS, And A Rationale For Ozone Therapy and Other Immune Modulating Therapies, *Medical Hypothesis* (1998), 50, p. 67-80
Shallenberger, Frank., Intravenous Hydrogen Peroxide in the Treatment of Chronic Sinusitis, *Proceedings of the First International Conference on Bio-Oxidative Medicine*, February, 1989, Dallas, TX
Shallenberger, Frank., Chronic Mononucleosis, *Ortho-Moleculair,* No. 5, October 1987
Lay Publications
Shallenberger, Frank. *Bursting With Energy*. Basic Health Publications
Shallenberger, Frank. *The Type 2 Diabetes Breakthrough*. Basic Health Publications.
Shallenberger, Frank. *Real Cures Newsletter*. SoundPub Publications

Dr. Luis David Suárez Rodríguez (MEX)

Studies

Medical Specialties
Acupuncture and Physiotherapy. UAM Iztapalapa RFP 4991164.
Anaesthesiology. UNAM. IMSS CMN La Raza
Bachelor degree Physician - Chirurgic . College of Medicine, UNAM. RFP 3664875

Experience

General manager. Centro de Medicina Integrativa SANAR SC	Private practice of Integrative Medicine (acupuncture, ozone, neural therapy, hyperbaric oxygen)	2006- 2011
Clínica Omega para la Atención Integral del Diabético	Private practice of General medicine and acupuncture	2002-2006

Publications/presentations

Treatment of acute viral respiratory tract infections with oxygen-ozone minor autohemotherapy. Case reports.	CNIC, Havana, Cuba	28 /06 – 1/07, 2010
Ozone Therapy. Health is Beauty Seminar	Mayo Clinic Wellness Center, Rochester USA	October 2009
Uso de punciones en el tratamiento de enfermedades entre la población Maya de Quintana Roo en la Actualidad	3er Anuario de Etnomedicina y Estudios de Plantas Medicinales de la UAM.	2008
Assessment of the Vascular Effects of PC6 (Neiguan) Using the Second Derivative of the Finger Photoplethysmogram in Healthy and Hypertensive Subjects.	Am J Chin Med. 2007;35(3):427-36	2007

Professional experience

Mild Hyperbaric Oxygen Therapy. Hands on Seminar, ACAM	June 2011
Updates in Ozone Therapy. Vienna, Austria. Ozonozan	October 2010
Oxidative Therapies Seminar. Autoimmune diseases General Session. ACAM	November 2010
Pain manage using ozone. AMOZON, Culiacán, México, Level I y II	2009
Training Program in ozone therapy. AMOZON. Basic, medium an high level	February 2008

Affiliations

American Conference for the Advancement of Medicine (ACAM)	Since 2009
Mexican Association of Ozone therapy (AMOZON)	Since 2008

Dr. Cakir Ruhi (TUR)

Place and Date of Birth: Istanbul, Turkey April 11, 1959

Medical Doctor. Istanbul / Turkey (1984)

Pediatrics Istanbul / Turkey (1991).

Family Medicine Istanbul / Turkey (1995)

Has worked in USA, Germany and Russia for various fellowship programs

Has been lecturing and teaching ozone therapies in several countries.

Conducting clinical trials on ozone therapies

Founder and director of Mediozon Clinics

Founder and the director of Eser Medical Health Services

Languages: English, German and Turkish

Founding member Turkish Ozone Associations

Member of the International Scientific Committee of Ozonetherapy (ISCO3) (www.isco3.org).

Dr. Danilo Ruiz Reyes (ECU)

Medical Doctor and Specialist in Internal Medicine issued by the Central University and Ministry of Health of Ecuador.

Training Course of Ozone Therapy in Cuba.

Training Course of Ozone Therapy in Argentina.

President of Ecuadorian Society of Ozone Therapy.

Secretary of Ecuadorian Society of Infectology.

Medical Chief from Ozonocenter (Medical Center).

Speaker at several Medical Congresses and manuscript published in different journals.

Dr. Roberto Quintero Mariño (SPA)

Lawyer in Colombia (1973) International Relations Diplomae (1981) and Political Sciences Doctor in France (1982). Has been judge, district attorney, and attorney at law. University and Post Graduate Professor in Colombia. United Nations staff member for 22 years. Has worked in Africa, America, Asia and Europe. Author of several books on history, political assessments and papers on international law. Author of "Ozonetherapy and Legislation: Towards a global assessment of comparative law", the only existing research on the legal situation of the ozone in the world.

Currently Legal adviser of the Spanish Association of Medical Professionals in Ozonetherapy (AEPROMO, www.aepromo.org), International Medical Ozone Federation (IMEOF, www.imeof.org), and International Scientific Committee of Ozonetherapy (ISCO3) (www.isco3.org).

Dr. Clint Folsom (USA)

153 Cahaba Valley Parkway, Pelham, AL 35124

Experience

After Mr Folsom received his degree from Birmingham Southern College he established Folsom Metal Products, Inc as a manufacturing and engineering company in 1970. The company has a history of accomplishments in medical devices, equipment for oil and gas exploration, and design projects for NASA.

The Frontier Devices Division manufactures devices for orthopaedic spine surgery and Dental Implants.

The Seal Tech Division designed and manufactured the first Rotating Blow Out Preventer for Oil and Gas Exploration

Seal Tech Space was contracted by NASA for redesign of the Space Shuttle Solid Rocket Motor in 1987 after the Challenger Tragedy.

World Cancer Centers S.DE R.L. was formed by Mr Folsom in Honduras to offer Immunotherapeutic Vaccines for the treatment of Cancer. The company has laboratories in San Pedro Sula, Honduras and on the Caribbean Island of Roatan.

Education

1970 Birmingham Southern College
Bachelor of Science, Biology

Awards and Honors

1987 Congressional Recognition from US Senate and House of Representatives for Design work on Space Shuttle

1987 Nominated for the Department of Commerce Medal of Technology

1992 Petroleum Engineers International Special Meritorious Award for Engineering Innovation.

Authors Index