

# Contributions to the Understanding of the Current Problems of the Doctor-Patient-Technology Trilogy

*Aportes a la comprensión de la problemática actual de la trilogía médico-paciente-tecnología*

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## INTRODUCTION

The current need of reassessing the clinical act becomes essential in the context of the humanistic crisis concerning the evolution of knowledge, which should not only be considered an anthropological situation but also an epistemological one, as medicine is isolated from the cognitive condition of the rest of the sciences. This reality makes the current doctor a disoriented being; even in the face of such an essential fact, as is the clinical act. (1)

The progress that medicine has experienced in the last half century can be summarized in two points of reference: 1) the technological advance at the service of diagnosis and therapeutics; 2) the collectivization of medical care. However, this remarkable development was carried out in violation of the pillar of medical art, the doctor-patient relationship. (2)

Obviously, the current clinical act must be articulated in a trilogy made up by the doctor, the patient and technology. The latter, a fundamental tool in diagnosis, must be understood as complementary to the doctor-patient relationship, as a support and not with exclusive profiles of the other two actors.

## APPROACH TO THE TOPIC

There is nothing as moving as the sight of a sick person. The moral damage caused by the disease is equal to or greater than the physical one. Anguish stirs in his bowels. This man hides his illness as the last bastion against the inexorable. He disguises his disease. Given this situation, how can the doctor-patient relationship be downplayed with the surge of technology and algorithms in medicine?

The relationship between consciousness and matter implies a friction between the doctor and the organic-psychic-social-ecological system that constitutes a sick being. In this aspect, a humanistic science

such as medicine can profit from complementary sciences, and it even needs to incorporate consciousness as an essential variable in its study and art. Here, in clinical medicine, lies a gap that includes its holistic understanding, the language before the patient, and the methodology. (3,4)

Obviously, the scientific observation of the phenomenology of consciousness does not have a defined connotation on the organic, but constitutes a process that is fundamentally ignored due to the difficulty of being assessable from a quantitative point of view. This concept recreates the doctor-patient relationship. The prevailing positivist medicine clearly interferes in the relationship between the doctor's consciousness (observing subject) and the body-mind-spirit integrity (5) that constitutes a patient (observed subject). (6-8) With an algorithmic clinical methodology, the phenomenology that implies the doctor-consciousness before the patient-consciousness is not taken into account. (9) At this point, the development of technology implies an essential approach for the most accurate and rapid diagnosis, as long as it does not constitute a divorce between the doctor and his patient by conferring it superlative properties.

There is a gap at this point that can only be solved in contact with the patient's integrity, in which it is possible to build the clinical concept that is perceived, but always referring to one's own mind. Its uniqueness cannot be excluded. This brings a closer vision of the clinical act to the diagnostic problem to be solved.

This communication between patient and doctor is promoted by a knowledge that is not absolutely conscious, but also has perceptive bases. Each being has its individuality to respond to the disease. The doctor possesses the knowledge to understand the patient's problems. And this instrument needs time and dedication. It is complemented by algorithms

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that are currently trying to unravel the pathology, as well as placing the technology as a determining action. This strategy can be a starting point, but never a final goal. In medicine, the sum of knowledge does not replace medical criteria. We need strategies that place us before the uniqueness of the patient with the necessary tools and enough time to act in accordance with human and medical ethics.

## DISCUSSION

Reason and the logic of progress led to technical development. (10) Now, in the clinical act, has the patient's knowledge and reality been maintained in the context of advances in instrumental technique? There is a mismatch in this evolution and the goal must be changed, since in the clinical act we are facing the alteration of a person's life and not only facing an organic disorder. Herein lies the conflict of post-modern medicine, which, albeit bringing together excellent faculties such as instrumental technification and collective assistance, has developed conveying difficulties:

- 1) The technification that distanced the patient from the doctor.
- 2) Super-specialized work, which, despite its benefits, bypasses the integral psycho-organic unity that should be formed with the patient.
- 3) An organization in which the doctor no longer has a direct contract with his patient, but rather a company that determines times, fees and possibilities, both for the doctor and for his patient. With this modality, the doctor has lost the freedom of his relationship with the patient's history. (11)

In medical sciences we need to incorporate to the quantitative tools of probability, the responses to the disease by the patient's consciousness. Therefore, the study of the physical structure of corporeity must be interrelated with the exploration of consciousness in the subject-patient during the medical act.

The observer must work with induction, intuition, observation and experience to incorporate clinical and biological physical-corporal measurements to less sensitive quantitative observations as are the answers of the conscience. Consequently, the experience gives a higher margin of approach to the singularity of the patient, a situation that is not feasible with only the physical and technological examination. (12)

At this point, the doctor needs more than technical knowledge to assess his patient. This position includes conditions that help the therapeutic process of the disease, as well as attributes in the patient's response to defend himself against the morbid (Table 1). From this it can be deduced that in this act of consciousness, between doctor and patient there must be: a) intentionality when referring to the patient and b) correspondence that must be achieved between the doctor and the patient. With intentionality, the object-patient (actually subject-patient) who also perceives, judges and decides, is constituted. For

this perception it is necessary to observe from different perspectives. This intentionality is intrinsic to consciousness. (13, 14)

When we include the concept of *epoché* within medical conditions, we are provisionally canceling not only the certainties and theories that are naturally offered. An attempt is made to evade the dominant dogma in favor of the singularity of the patient. *Epoché* is the suspension of *a priori* judgment. This attitude must be complemented with *phenomenological reduction*, which allows us to put consciousness and its experiences before us. In the positivism of medical science there is a dogmatic and realistic assumption of a pro-theoretical nature. This makes it difficult to search for a different consideration of that reality with the concepts of *epoché* and *phenomenological reduction*. The latter tries to reach the hidden subjectivity of the patient, where he "is" independent of his correlation fabricated by the surrounding world. The phenomenology produced is a knowledge of the essence. Here, there is an intuition. Suddenly, this intuition passes from sensibility to understanding, as Husserl said: "... every intuition that originally gives itself is a legitimate source of knowledge, everything that is originally presented to us in intuition must simply be accepted as it is, but also only within the limits in which it is given." (14)

## CONCLUSIONS

This articulation deficit in the doctor-technology-patient trilogy is due to a series of causes that range from the phenomenology of consciousness between patient and doctor, through the interpretative deficit of these advances within a clinical context, to economic, social and political situations in medical practice. Obviously, this situation causes fractures in the doctor-patient association on a daily basis, to which is added the factor of technology, which should be interpreted as an aid to that relationship and not as an exclusive resource.(15) And this is of vital importance, since this relationship belongs to the consciousness between two people and to the "human factor" that we can define as the analysis of the emotional factors that impress the senses, those that are cause or contributors in the understanding of the processes that lead to the disease as well as its healing flow in man.

There is seduction by laboratory and imaging studies as if they alone could make the diagnosis be-

**Table 1.** Doctor-patient intersubjectivity. Capabilities

Doctor	Patient
Observation	Responsability
Perception	Behaviour
Epoché	Temperament
Phenomenological reduction	Corporeity
Dialectic	Dialectic

cause they are infallible. The fact that these tools are operator-dependent, that obey machine algorithms and that are an instant of the patient's health-disease complementarity is not taken into account. This situation has reached such an extreme that it has erased the practice of the clinical act with its postulates of observation, anamnesis and semiology, without considering the "human factor" or the possible level of randomness of all knowledge.

This leads to a polarity: clinic or technology? which causes a greater divorce between the patient's psycho-physical-social integrity and the doctor's act of caring. In this scenario, the uniqueness of each being disappears by becoming copies of a pathophysiological mechanism with the exclusion of individuality, forgetting the Hippocratic aphorism "there are diseases, but only in patients".

Actually, there should be no dilemma. The help provided by technological tools is beneficial to the clinical act. At this point, it is necessary for the physician to know how to investigate auxiliary procedures to achieve the diagnostic complementarities offered by semiology. Technology is not an isolated entity in the interpretation of elements that are added to the clinical act; in fact, it cannot decide by itself. Also, this does not lead to proper medical training. There should be no technological abuse in pursuit of a diagnosis. This does not improve or replace the clinical act, because unless properly interpreted, these studies can be misleading. An excessive value given to auxiliary procedures can lead to clinical error and neglect the "human factor", a pillar in medical practice.

The non-observance of the need for the clinical act and the inadequate interpretation in the auxiliary mechanisms implies that the error begins with the doctor. The analysis and synthesis of the clinical act are not always valued as fundamental, not only due to a lack of training, criteria or patience, but also due to the scarce time currently given by medical collectivization to the care of each patient. The clinical act in its semiological approach is not closed to the intelligence of the doctor, since this does not need any essential attribute nor does it demand exceptional virtues. Sometimes error happens, beyond doing the right thing to avoid it, surely because the information provided by the clinical act has been scarce or difficult to interpret.

The risk is to opt for the simpler path of technology, with less effort and perhaps avoiding the doctor's "diagnostic anguish" when faced with the need to reach it. Clinical practice is strenuous, surprising, a path of study and interpretation of what is seen, heard and explored in the patient, before the eventuality that an image or numerical figures from the laboratory perform the magic that can do everything. Technology must be accessory in the clinical act, before it the doctor must take into account fundamental questions: and the human factor? the mind and the spirit? Clini-

cal practice needs experience. Sometimes it is elusive, it is necessary to "reinterrogate the signs", over and over again. When we leave the clinical act aside, we only interpret the "reality of the machine", not that of the patient.

Where is it proposed that anamnesis, observation and semiological maneuvers became trivial before the machines? From a lack of technical and anthropological medical training, from easiness in the face of effort, need for a number of patients in a limited time?

This position supported in the previous paragraphs is far from ignoring the importance of technological means in patients; it only seeks to incorporate them within the framework of the relationship and clinical judgment essential in a humanistic science. In this way we will be harmonizing technological progress with medical science in a deeply human act as a doctor does before a sick person. It is up to the doctor, almost an archaeological piece called "general practitioner", to interpret the studies in relation to his patient and not be bewitched by the numbers that technology offers him. This has perfected these interpretations, but its mistakes can be fatal in the absence of the clinical act.

Ultimately, anthropological medicine deals with not including the patient within an algorithm, but building an algorithm in each patient.

#### Conflicts of interest

None declared.

(See authors' conflict of interests forms on the web).

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## Thrombi in Both Atria Detected by Cardiovascular Tomography in a Patient with Atrial Fibrillation

*Trombos en ambas aurículas en paciente con fibrilación auricular detectados por tomografía cardiovascular*

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An 84-year-old female patient with a history of hypertension, diabetes, stroke and atrial fibrillation under anticoagulant treatment with acenocoumarol presented with severe aortic stenosis (peak gradient 74 mmHg, mean gradient 44 mmHg, area 0.6 cm<sup>2</sup>) and mildly depressed global left ventricular function. A cardiovascular tomography was performed to schedule a transcatheter aortic valve implantation (TAVI).

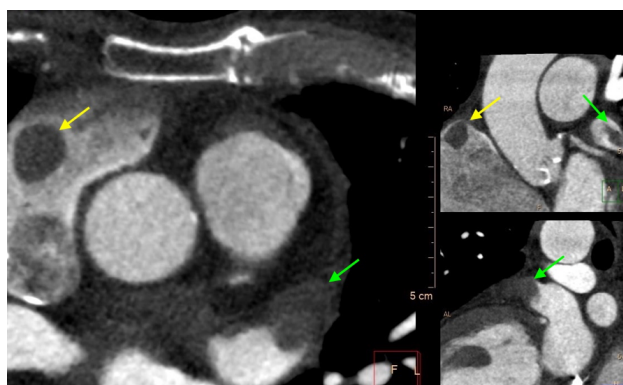
The study showed filling defects in early and late phases contrast-enhanced images in the roof of the right atrium near the atrial appendage and in the left atrial appendage, consistent with thrombi (Figures 1 and 2).

Thrombosis of the left atrial appendage is frequent in atrial fibrillation, and its prevalence (up to 8% with anticoagulant therapy and 5-27% without) depends largely on the studied population. However, thrombosis of the right atrial appendage is rare (estimated at 0.6-0.75%), and its incidence is lower due to its anatomy (more open and with less potential for blood stasis –“remora phenomenon”– than the left one) and to a search performed less systematically as well as difficulties in evaluating its structure.(1) However, autopsy studies suggest that the prevalence of thrombosis in both atria is similar.(2)

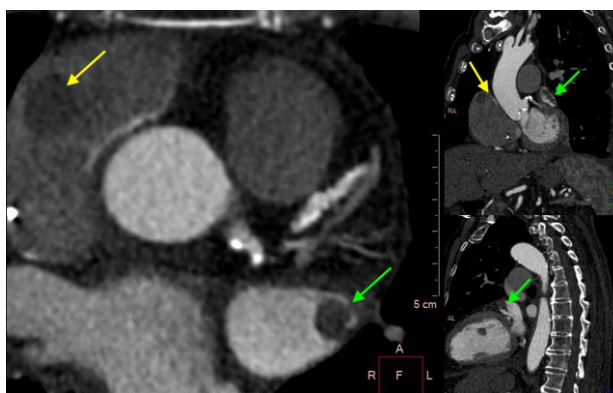
Cardiovascular tomography is an excellent tool to evaluate atrial thrombosis, which is observed as a defined structure with clear borders generating filling defects both in early and late phases after the contrast agent is administered (it distinguishes from the remora phenomenon in which defects in early phases are corrected in late phases). It has very high sensitivity and specificity for the detection of thrombi in the left atrium.(3) However, in some cases, it is difficult to achieve an adequate contrast in the right chambers, mainly the right atrial appendage, by using imaging to evaluate “left structures” (coronary arteries, pulmonary veins, valves); thus, right atrial thrombosis may be undetected. The low signal in Hounsfield units on non-contrast-enhanced tomography or the Hounsfield units ratio between thrombus and the aorta using dual-source equipment (4) may be helpful in identifying atrial thrombosis by cardiovascular tomography.

### Conflicts of interest

None declared (See authors' conflicts of interest forms on the website).




**Fig. 1.** Early phase contrast-enhanced images. Filling defects consistent with mass in the roof of the right atrium (yellow arrow) and distal body of left atrial appendage (green arrow).



**Fig. 2.** Late phase contrast-enhanced images. Defect persistence in both atria

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