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Editorial

Mind the gap versus filling the gap. The heart beyond specialties

El corazón más allá de las especialidades: cerremos la brecha

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Pre- and postgraduate medical education is a complex dynamic process, with a crucial influence on the future of our specialties and on the wellbeing of society. A critical aspect is the need to constantly maintain and update knowledge, aiming to preserve and increase professional capabilities to serve the patient. This is the goal of continuous medical education.

The specialty training period involves facing daily clinical practice, generally in a teaching hospital. Some important aspects are the hardness of training that can influence one's life experience, the stress of taking on—not always progressively—responsibilities, the possible shortfalls of the system and, as in the case of Spain, poor remuneration in relation to effort and responsibilities. Physicians live with this for long time, currently, even more intensely, if possible; an example is the current situation of physicians in training in different autonomous communities in Spain.[1]

Medical education therefore needs periodic review to self-adapt to changes according to the accumulated knowledge and technological development. In the field of cardiovascular medicine, this has been a constant since the beginning of cardiac surgery and of what is currently known as interventional cardiology.

THE HISTORICAL FRAMEWORK

Cardiovascular surgery and cardiology are 2 of the oldest medical specialties in Spain, as described in the 1955 Law of Medical Specialties[2] for a set of 31; this law was later confirmed by the Royal Decree 127/1984 of January 11, which regulated specialized medical training to obtain the title of medical specialist for a set of 41 specialties.[3]

In these more than 60 years, the paths traveled by both specialties have at some point diverged. The training programs have evolved in parallel, and to date those of 2007 for cardiology[4] and of 1996 for cardiovascular surgery[3] are still in force. Regarding the latter, some updates to the training programs have not yet been approved by the General Directorate of Professional Management of the Spanish Ministry of Education, the regulatory body overseeing training programs in Spain. For various reasons, it does not seem that the restructuring that would be appropriate is on the professional or political horizon.

THE EVOLVING SCENARIO

We are currently witnessing changes in the approach to disease and patients. Multidisciplinary teams dedicated to cardiovascular disease have flourished in the last decade, following the example of cardiovascular infections.[5] What is currently termed the "Heart Team" has been a logical development related to the progression of our knowledge and interdisciplinary cooperation over the years. Coronary artery and structural heart diseases are assessed differently if discussion involves diverse professionals. These groups have for some time now been considered necessary and essential for the surgical treatment and transcatheter therapy of structural heart disease.[6,7]

Assuming the differences that have existed to date between cardiologists and surgeons, which still exist and will most likely exist in the future, simply because of the different views of the 2 specialties on the same problem—for example in structural heart disease—past developments have revealed that different training itineraries end up with the performance of the same procedure.

As mentioned, the teaching programs in cardiovascular surgery[3] and cardiology[4] in Spain would need a review of these training itineraries, taking into account the need to converge on the final point that gives meaning to the entire process: the patient and the quality of the care delivered. Discussion about who should provide patient care through a certain procedure has been and continues to be more of a dogmatic response, based more on each specialty's view of the problem than on a discussion with logical arguments to find a point of convergence. Everyone has expressed the problem in different ways.[8,9]

Many will argue that since medicine is a dynamic entity, as we witness its evolution and progress, it is necessary to go back in time and understand that the current situation of structural heart disease treatment follows, like almost everything in life, the evolutionary model described by Lamarck.[10] The fundamental fact is always the ability to adapt to environmental changes.

We are, therefore, in an evolutionary moment of cardiovascular care that confirms the need for a change in the therapeutic approach to structural heart disease, a term that is accepted by most, but is also controversial for others because it retains some degree of vagueness.[11] Various scientific societies have spoken out in this regard with a greater or lesser degree of protectionism, discussing training, quality, and interdisciplinary collaboration in structural heart disease[8,12] mainly in the management of aortic stenosis. Regardless of the approach, recent literature seems to concur on the need for a future with shared responsibility and execution in the provision of the intervention. This is supported by the Spanish Society of Cardiology.[8]

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THE MODEL, WHERE DO WE GO?

This is the question nobody in the setting of cardiovascular medicine wants to address, but it is repeatedly hinted at in the specialized literature. What model do we want? A model organized by cardiologists, by surgeons, by educational regulatory bodies at the national level, by scientific societies? Perhaps the fundamental question is: are we willing to cede our individual viewpoints and become more receptive to those of are so-called opponents? Cequier et al.[8] discuss the suitability of medical and surgical programs for the provision of services in structural heart disease, specifically in aortic stenosis. However, as already mentioned, both teaching programs[3,4] need an update. Both have a minimum 10-year validity. In a decade, cardiology and cardiac surgery have undergone profound changes that have revolutionized practice in our field. Therefore, and regardless of individual or societal orientation, a reformulation of the care process is required, which is feasible without renouncing the essence of each specialty.

Since its origins, the study of the basis of cardiovascular disease has been directly related to the development of invasive treatment. The development of techniques and procedures has obliged interventional cardiologists to become structural interventionists and cardiac surgeons to become surgeons who incorporate structural intervention into their practice.[12] As a result of this transformation, structural interventional cardiologists and hybrid surgeons have become very similar professional figures. This has generated some confusion and challenges, including a new reason to debate and fight for control of the field. The need and the obligation to offer the best individualized treatment by the best professional is what gives birth to the similarity. The border marked at this point does not separate, but must unite 2 disciplines that are obliged to understand that this separation is artificial. Nobody tries to ignore the existence of 2 different specialties; they are different entities at least in their current conceptions. It is about understanding that there is a large common ground for diseases, for techniques, and above all for the ultimate goal of optimizing the care of structural heart disease in our patients.

At a time when specialties are struggling, the educational model that we are currently testing and offering is a model of equality, coexistence and shared philosophy aiming to unify the interventional view of structural heart disease. The structure is based on knowledge of cardiovascular disease, and understanding of the entire spectrum of cardiologists, surgeons and all specialists involved in patient care. An example of such an educational model is the University of Zurich's Certificate of Advanced Studies that has congregated throughout its various editions an ecosystem of specialists (Appendix 1), united by seeking excellence in the treatment of structural heart disease. In addition to the theoretical aspects included in various programs, cross training with supervised and documented practice integrates simulation; a fundamental tool in the present and in the future of anyone interested in structural heart disease interventions. Our own experience shows that it is necessary to deepen not only the manual aspects of interventional practice, but also cognitive and perceptive abilities.[13] The use of simulation models with different degrees of fidelity has already allowed us to advance the understanding of complex models, such as valve repair, for example. Innovation has allowed us to develop simulation models suitable for all those interested in structural heart disease, regardless of the origin of their knowledge and basic training.[13] An innovation that is aimed at usability, haptic feedback and image solutions, configuring promising tools for simulation-based training, is incorporated in the current and future model.[14] From these already validated practical solutions, a future model can be anticipated in which not only manual, but also visual control of the procedure will favor the learning of future specialists in the treatment of structural heart disease. Recent experience, even in complex times such as those of the COVID-19 pandemic,[15] confirm that in addition to individual cross training, improving the overall view of the disease, the process and the patient, such a model will favor teamwork and networking in interdisciplinary action. Cardiologists and surgeons agree to move forward together in training and clinical practice. A good example is what was expressed in the Spanish Society of Cardiology's documentary to commemorate its 75th anniversary.[16]

CONCLUSION

We live in a decisive moment for changing the basic training model for the provision of services in structural heart disease. Multidisciplinary teams have proven to be useful and important in reaching agreements to improve patient care and, therefore, clinical outcomes.

The model of education in structural heart disease has already begun to change and it is our responsibility to lead and drive that change. The final objective is to focus the training process on acquiring skills to enable us to offer the most advanced treatment and not on the specialty of the care provider, for the benefit of future specialists, and therefore, of patients.

CONFLICTS OF INTEREST

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APPENDIX 1. THE UNIVERSITY OF ZURICH'S CERTIFICATE OF ADVANCED STUDIES FOR SPECIALISTS, WHICH REPRESENTS THE ESSENCE OF THE PROPOSED MODEL

Anesthesiology

Thomas Horisberger (Zürich, Switzerland)
Tobias Renner (Zürich, Switzerland)

Cardiac surgery

Martin Andreas (Vienna, Austria)
Zsuszanna Arnold (Vienna, Austria)
Marieluise Harrer (Vienna, Austria)
Markus Mach (Vienna, Austria)
Birgit Zirngast (Graz, Austria)
Johannes Steindl (Salzburg, Austria)
Jayapadman Bashkar (Melbourne, Australia)
Nestor Sabatovicz (Brasilia, Brazil)
Ana Paula Tagliari (Porto Alegre, Brazil)
Hashem Aliter (Halifax, Canada)
Walid Ben Ali (Montreal, Canada)
Lorena Montes (Bogotá, Colombia)
Thomas Modine (Lille, France)
Mohammed Morjan (Duisburg, Germany)
Andrea Colli (Pisa, Italy)
Michele De Bonis (Milano, Italy)
Andrea Garatti (Milano, Italy)
Alberto Pilozzi (Milano, Italy)

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