Ventricular mural architecture. Response

Arquitectura de la pared ventricular. Respuesta

To the Editor,

We thank Sánchez-Quintana et al. for their interest in the article by Omar Yassef Antúnez Montes.[1] If we correctly understand their main concerns and messages, they have continued to misunderstand the original dissection protocol of Torrent-Guasp, insisting that it was based on some imaginary ''pre-existing anatomical boundaries'', thus creating some imaginary ''planes of division''.

Although the principle of heart dissection based on the orientation of the predominant fiber at a given point, along with the basic histological compendium, has been presented and explained in detail many times,[2–5] with all its advantages and restrictions, it seems that a certain school of thought still does not understand the principle of ''predominance'' in the myocardial fiber array. Edward Sallín even demonstrated with mathematical models the requirement of helical fibers to achieve a myocardial work close to 90% ejection fraction.[6]

This correlation[1] is motivated by the peculiar forms in which postinfarction intramyocardial dissecting hematomas dissect planes of cleavage in the areas described by the helical band,[7] and evidently without the intervention of a dissector. As I mentioned previously, myocardial function, is the distinctive feature for determining the credibility of the structure.[1,5]

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Scientific evidence versus expert opinion. Should we modify clinical practice guidelines?

Evidencia científica frente a la opinión de expertos. ¿Debemos modificar las guías de práctica clínica?

To the Editor,

Transcatheter aortic valve implantation (TAVI) has become the treatment of choice for most patients with severe symptomatic aortic stenosis. The European Society of Cardiology guidelines[1] recommend with a level of evidence based on expert consensus (I-C) that TAVI only be performed in hospitals with on-site cardiac surgery. However, more and more clinical data indicate the value of a different level of recommendation on this topic, one with a scientific basis.

In this regard, data were recently published from a European registry (EuRECS-TAVI)[2] of patients who required emergency cardiac surgery during transfemoral TAVI. Of the 27 760 patients included, 212 (0.76%) required emergency cardiac surgery; this figure has remained stable since 2014. The most frequent reasons for the emergency surgery were left ventricular perforation and annular rupture, which together occurred in half of the population. At 1 year of follow-up, all-cause mortality was high, even in patients who underwent emergency surgery and who were discharged alive (60%).

In 2014, a substudy of the German TAVI registry[3] was published that compared clinical results between patients who had been treated in hospitals with and without on-site cardiac surgery. In total, 1432 patients were included; 12% (n = 172) underwent TAVI in hospitals without on-site cardiac surgery. Their baseline characteristics were similar (logistic EuroSCORE, 20 ± 11 in centers without on-site surgery and 21 ± 14 in centers with on-site surgery), although the patients treated in centers without on-site surgery were hemodynamically more stable and more frequently had a history of cardiac surgery. Regardless of procedure duration, the complication rates were similar. In the Austrian TAVI registry,[4] 290 patients (15.9%) with high surgical risk who underwent transfemoral TAVI in centers without on-site cardiac surgery were compared with 1532 (84.1%) treated in centers with on-site cardiac surgery. The patients treated in hospitals without on-site cardiac surgery had a significantly worse risk profile:

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Centers that participated in the Spanish TAVI Without On-site Cardiac Surgery Registry	Number of patients included (n = 384)
Hospital General Universitario de Albacete	124
Hospital Universitario Juan Ramón Jiménez, Huelva	59
Hospital Universitario Virgen de Valme, Sevilla	54
Hospital Universitario de Burgos	29
Hospital del Mar, Barcelona	27
Hospital Universitario Insular de Gran Canaria	23
Hospital Universitario Torrecárdenas, Almería	23
Hospital General Universitario de Ciudad Real	17
Complejo Hospitalario de Jaén	15
Hospital Universitario Joan XXIII, Tarragona	13

Figure 1. Centers that participated in the Spanish Transcatheter Aortic Valve Implantation Without On-site Cardiac Surgery Registry.

surgical risk before matching, 20.9 (12.8-30.3) in centers without on-site cardiac surgery vs 14.2 (9.0-22.2) in centers with on-site cardiac surgery. However, after matching, the risk score of the surgery group was 19.6 (13.1-28.6). After propensity score analysis, the short- and long-term mortality rates were similar in the 2 groups.

In Spain, patients have undergone TAVI in centers without on-site cardiac surgery since 2010. All of these centers use self-expanding prostheses and have on-site cardiovascular surgery and an arrangement with a cardiosurgical center that would accept urgent patients if required. The clinical results of these centers without on-site cardiac surgery in Spain were recently published.[5] This registry is the largest to date (n = 384 patients) (figure 1). The patients had moderate-to-high risk (mean STS, 5.9 ± 3.7) but were older and had a higher prevalence of frailty than those in other registries. In this study, all implanted prostheses were self-expanding, conversion to surgery occurred in 1 patient (0.3%), and in-hospital, 30-day, and 1-year mortality rates were 5.2%, 6.1%, and 12.2%, respectively.

In light of the good clinical results of the registries of patients treated in centers without on-site cardiac surgery and the potential advantages of TAVI in these centers, such as the absence of need to transfer unstable patients and a beneficial impact on waiting lists, we can conclude that TAVI performance in centers without on-site cardiac surgery, particularly with self-expanding prostheses, is a viable and reasonable option for selected patients, specifically inoperable patients and those with high surgical risk, advanced age, or frailty.[6] Although these data should be confirmed in studies with a larger number of patients, we consider that, given the scientific evidence, the level of recommendation on this topic should be reviewed in the clinical practice guidelines.

CONFLICTS OF INTEREST

R. Moreno has participated in and received payments for lectures and consultations and support to attend conferences from Edwards Lifesciences; is proctor for Lotus and Acurate Neo valves, both from Boston Scientific; has participated in lectures and consultations and received support to attend conferences from Boston Scientific; and is proctor for the Allegra valve from New Vascular Therapy. M. Pan has participated in and received payments for lectures from Abbott, Terumo Medical Corporation, and Philips Volcano. A. Pérez de Prado has participated in and received payments for consultations from Boston Scientific and iVascular SL and for lectures from Abbott, Braun Surgical, Terumo Medical Corporation, and Philips Volcano. P. Jiménez Quevedo has no conflicts of interest.

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