Editorial

The EASE trial: surgery for infective endocarditis, have we found the right timing?

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Despite recent advances in diagnosis and treatment, infective endocarditis (IE) is still a hazardous condition with high in-hospital mortality, reaching 12.6% (1) in the Euro Heart Survey programme. Surgical treatment is a potentially lifesaving treatment and is required in nearly 50% of patients (2). Indications for surgery are well defined in guidelines (3,4) but there is a lack of recommendations about the time when it must be done and, in general terms, prognosis is better if surgery is undertaken in the acute or active phase of IE, before cardiac tissue destruction takes place.

Embolic complications may occur in 22-50% of the cases (2). Several factors have been associated with an increased risk of embolism (2,5). They include the presence of some specific micro-orgarnism like Staphylococcus aureus, Streptococcus bovis or Candida, the fact of having suffered previous embolism, and some characteristics of the vegetations, such as size (>10 mm), mobility, or localization. It is also known that the risk is greatest during the first days, decreasing after the 2 to 3 weeks of antibiotic treatment.

The EASE trial (6) is a prospective randomized study that compares early surgery (in the first 48 hours after enrolment) against conventional therapy (in accordance to AHA guidelines) in patients with IE. The trial enrolled 76 patients with native left-sided valvular IE (defined by the modified Duke criteria), severe valvular dysfunction and with vegetation diameter over 10 mm. The primary end point was a composite of embolic events or death within 6 weeks after randomization. Secondary end points include embolic events, recurrent endocarditis, repeat hospitalization due to congestive heart failure, or death from any cause during the follow up of 6 months. Authors found that early surgery was associated with an important reduction on the primary endpoint, by decreasing the risk of systemic embolism (none of the patients assigned to early surgery suffered an embolic event, against 8 of the conventional treatment, P=0.005). Remarkably, most of the patients who were assigned to conventional therapy (77%) also underwent valve surgery, especially during the initial hospitalization (69%). There was no significant difference in all-cause mortality at 6 months between both groups. And, the rate of the composite of secondary end-points was 3% in the early surgery group as compared with 28% in the conventional-treatment group (HR: 0.08, 95% CI: 0.01 to 0.65; P=0.02). With these results, an early invasive approach is strongly supported in this subgroup of patients.

However, the work by Kang and colleagues had some limitations that may be stressed. Firstly, it includes a small number of patients, which may explain, as well, the broad confidence intervals reported in the article; this fact diminishes the robustness of the results. Secondly, the cohort has a low preoperative risk, by excluding IE which involves prosthetic valves and those in patients older than 80 years, with aortic abscess or who have coexisting major stroke. These exclusion criteria affected the relative frequencies of causative microorganisms, with only 11% of the IE caused by S. Aureus. As a result, the proportion of patients with poor prognostic factors was very low, which could be a major explanation of the low mortality reported in this study. And finally, it is also relevant the aggressive surgical approach in this study, with more than 80% of the patients undergoing valve surgery during the initial hospitalization with very low perioperative mortality. The good surgical results are probably related to the broad

experience of the centers, with a high proportion of valve sparing surgeries. This detail may also have influenced the event rate observed.

Because of that, this trial might not be applicable to patients with high preoperative risk or to medical centers without such surgical experience, but it might be useful to clarify what we should do with those patients which do have severe valve disease but do not have indication for urgent surgery according to the guidelines.

While these results appear promising, larger studies are necessary to confirm the benefits of the early surgery in IE.

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