Reviewer’s report

Title: Incidence and influence of prosthesis-patient mismatch after reoperative aortic valve replacement: A retrospective single-center study

Version: 0 Date: 21 Jan 2020

Reviewer: Nestoras Papadopoulos

Reviewer's report:

I would like to thank you for the opportunity to review the article submitted from Tsubota and associates. In their manuscript, they report on the institutional clinical outcomes and incidence of prosthesis-patient mismatches (PPM) after reoperative AVR. Patient cohort consisted of 113 patients, while 44 of them underwent redo AVR (Re-AVR) and the remaining 69 patients underwent a first aortic valve replacement in a redo-case scenario (Primary AVR). Tsubota et al conclude that early and long-term outcomes of repeat AVR were acceptable and early and long-term mortality did not differ between patients who underwent Re-AVR and primary AVR. In the Re-AVR group increased incidence of PPM couldn`t be detected.

In my hands, the manuscript has in the current form several limitations such as:

1. Authors didn’t describe precisely, who they surgically explant the preexisting aortic valves and who they size the aortic annulus.

2. Statistical analysis of previous procedures hasn’t been performed.

3. Compared groups (Re-AVR and Primary AVR) are inhomogeneous regarding previous procedures (for example CABG: Re-AVR= 15.9% vs 31.9% in the Primary AVR Group). Thus, Redo AVR in the presence of patent grafts carries out a higher perioperative mortality and morbidity compared to other redo cases.

4. Furthermore, almost one fifth of patients in Redo-AVR group required a redo-procedure in presence of infective endocarditis of the aortic prosthesis. Authors miss to report both the extension of endocarditis (valvulare or subvalvular abscess etc.) and who they manage the Redo-Cases in the setting of endocarditis.

5. In addition, operative data of compared groups are also inhomogeneous once half of the patients in the Primary-AVR group and one third of the patients in Redo-AVR group received a mechanical prosthesis.

Thus, the current manuscript is not acceptable for publication due to missing data and inhomogeneity of the compared groups regarding previous procedures, etiology of aortic valve dysfunction as well as operative data.
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