

USE OF SUTURELESS AND RAPID DEPLOYMENT PROSTHESES IN CHALLENGING REOPERATIONS

Review of the current evidence

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November 28, 2020

Abstract

Background and aim of the study: Sutureless and rapid-deployment bioprostheses have been introduced as alternative to traditional prosthetic valves to reduce cardiopulmonary and aortic cross-clamp times during aortic valve replacement. These devices have been employed also in extremely demanding surgical settings as underlined in the present review. Methods: A search on PubMed and Medline databases aimed to identify, from the English literature, the reported cases where both sutureless and rapid- deployment prostheses were employed in challenging surgical situations, usually complex reoperations sometimes even performed as a bail out procedures. Results: We have identified 25 patients in whom a sutureless or a rapid-deployment prosthesis were used in complex redo procedures. In 17 patients a failing stentless bioprosthesis was replaced with a sutureless (n=14) or a rapid deployment valve (n=3). Bioprostheses implanted at first operation were mainly Freestyle (n=11) or Prima Plus (n=3) aortic roots, while Perceval (n=13) and Intuity (n=3) were those most frequently employed at reoperation. A failing homograft was replaced in 6 patients using a Perceval (n=5) or an Intuity (n=1) bioprosthesis while a Perceval was used to replace the aortic valve in 2 patients to treat failure of a valve-sparing procedure. All patients survived reoperation and are reported alive 3 months to 4 years postoperatively. Conclusions: Sutureless and rapid-deployment bioprostheses have proved effective in replacing degenerated stentless bioprostheses and homografts in challenging redo procedures. In these setting, they should be considered as a valid alternative not only to traditional prostheses but also in selected cases to transcatheter valve-in-valve solutions.

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