A Systematic Review of Outcomes of Composite Mechanical Root Replacement Compared to Composite Biological Root Replacement. by Mohamad Bashir | Amer Harky | Consortium of surgeons | Rakesh Uppal

Abstract Id: 38 Submitted: January 25, 2017 Event: The Houston Aortic Symposium: Frontiers in Cardiovascular Diseases, the Tenth in the Series Topic: Aortic

Objectives:

Composite aortic root replacement is a standard procedure for various aortic root pathologies. This systematic review was set to identify the postoperative outcomes for composite mechanical root replacement compared to composite biological root replacement.

Methods:

We systematically reviewed 4 major databases for all papers assessing outcomes in composite root replacement. Articles selected were chosen by two reviewers. Amongst our inclusion and exclusion criteria, all paediatric populations were excluded as were studies with a cohort less than 50 patients.

Results:

We identified 56 studies that conformed to our inclusion criteria and incorporated 172,914 patients (85,800 mechanical and 3380 biological). In hospital mortality was higher but non-significant in the mechanical group (6.1% vs 4.2% respectively). Mechanical composite root was associated with a significant increased risk of perioperative bleeding (8.8% vs 4.1% respectively, p<0.01). There was no significant difference in; endocarditis, 1-year mortality, 5-year mortality, weighted reoperation rates, mean cardiopulmonary or aortic cross clamp time.

Conclusions:

Composite mechanical root offers no superiority to composite biological root. There is a significant increase in the perioperative bleeding amongst composite mechanical root cohort.