**COMPARISON OF EARLY HEMODYNAMIC PERFORMANCE OF STENTED PERICARDIAL AND PORCINE AORTIC VALVES**

**V. Sharma1**, S.V. Deo2, S.E. Altarabsheh3, Y.H. Cho4, P.J. Erwin5, S.J. Park6

1. University of Utah, Salt Lake City, UT, USA

2. Division of Cardiovascular Surgery, University Hospitals Case Medical Center, Cleveland, Ohio, USA

3. Division of Cardiovascular Surgery, Queen Alia Heart Institute, Amman, Jordan

4. Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea

5. Mayo Clinic Libraries, Mayo Clinic, Rochester, MN, USA

6. Division of Cardiovascular Surgery, University Hospitals, Case Western Reserve University, Cleveland, OH, USA

Data comparing the hemodynamic performance of stented pericardial and porcine aortic valves are conflicting. We performed a systematic review and meta-analysis comparing the early hemodynamic parameters of stented pericardial and porcine valves in patients undergoing isolated aortic valve replacement. Medline, EMBASE and Web of Science were queried for English language original publications from 2000 to 2013. Studies comparing porcine (PoV) and pericardial (PeV) with regard to their hemodynamic parameters were included in this review. Continuous data were pooled using the mean difference (MD) or the standardized mean difference (SMD). A random-effect inverse weighted analysis was conducted; a P-value <0.05 is considered statistically significant. Results are presented with 95% confidence intervals. Thirteen studies (1265 PeV patients and 871 PoV patients) were included in this analysis. The pooled transvalvular mean gradient was lower for PeV [MD -4.6 (-6.45 to -2.77) mmHg; P<0.01]. Limiting this analysis to small valves (19 and 21 mm; eight studies; 714 patients) revealed that the PeV gradients were significantly lower [MD -4.5 (-5.7 to -3.2); P=0.001]. The corresponding effective orifice area of PeV was significantly larger than PoV [SMD 0.42 (0.15–0.69); P < 0.01]. A sensitivity analysis comprising only randomized controlled trials did not significantly alter results. When compared with porcine valves, stented pericardial aortic valves have lower mean transvalvular gradients early after implant. Even pericardial valves in smaller sizes (19 and 21 mm) have a better hemodynamic profile when compared with their counterparts.