



Sutureless Aortic Valve Replacement In Octogenarians - Comparative Analysis With The Sutured Valves

M.Karupppannan, G.Laskawski, D.Rose, A.Walker, A.Bose, C.Raimondo, M.N. Bittar, J.Zacharias
Lancashire Cardiac centre,Blackpool Victoria Hospital, Blackpool,United Kingdom



Aims: : As more people survive into their ninth decade, there is an increasing prevalence of aortic valve disease requiring intervention. This study sought to identify the early and long term outcomes of sutureless prosthetic valves in this selected patient group and compare it to the conventional sutured valves.

Methods: A retrospective review of prospectively collected data from all patients aged 80-99 who underwent surgical aortic valve replacement between January 2010 and December 2021 were analysed.

Exclusion criteria: redo operations, concomitant aortic replacement or multi valve procedures were excluded.

Primary outcomes : 30-day mortality and morbidity

Secondary outcomes : one & 5-year survival.

Results: Out of the 389 patients (mean age 83.0 ± 2.7 years, Females 50.8%) who underwent surgical aortic valve replacement, sutureless valve was implanted in 89 (22.1%) with 10.4% by the MICS approach . The mean logistic EuroSCORE was 14.03 ± 8.7 (14.8 ± 11.8 in sutured valve group).

Characteristics	Sutureless valve(86)	Sutured valve(303)	P-value
Postoperative ICU stay(median)	1 (IQR 0)	1 (IQR 0)	
Postoperative hospital stay(median)	9 (IQR 7)	9 (IQR 8)	
30 day mortality	2.3%	3.3%	0.6
Wound infection	2.3 %	1.6%	0.6
Reoperation for bleeding/tamponade	3.4%	4.9%	0.5
Stroke	1.1%	1.9%	0.6
Renal failure hemofiltration	1.1%	3.9%	0.2
Respiratory failure tracheostomy	1.1%	2.9%	0.3
Bowel ischemia	0%	0.3%	0.6
PPM implantation	5.8%	1.6%	0.03

Survival	Sutureless Valve	Sutured valve
1 year	90.7%	92.7 %
5 years	75.5 %	75.5 %

The mean aortic cross clamp time was shorter in the sutureless valve group(50.8 ± 27.6 mins vs 86.4 ± 28.8 mins, $p < 0.0001$)
The morbidity among both the groups were acceptable and similar(table.1), except that there was increased incidence of pacemaker implantation in the sutureless valve group (5.8% vs 1.6%, $p = 0.03$)

Conclusion: This study confirms surgical AVR is safe in selected octogenarians with excellent short and long results. The use of sutureless valves appears to reduce intraoperative times but this does not convert to any obvious clinical advantage in the short or long term.