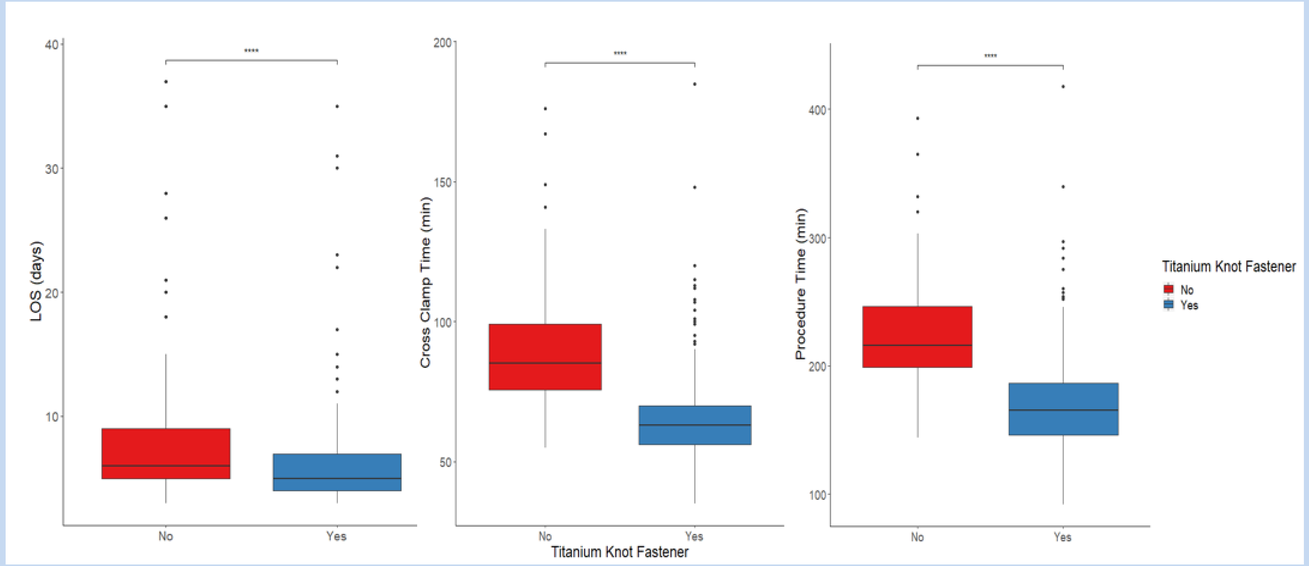
Titanium Knot Fasteners In Minimally Invasive Aortic Valve Replacement

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BACKGROUND

The expansion of transcatheter aortic valve replacement (TAVR) mandates that cardiac surgeons adopt minimally invasive approaches to surgical aortic valve replacement (SAVR). Titanium knot fasteners (TKF) have been shown to greatly facilitate minimally invasive SAVR. Toward this end we review our institutions experience with titanium knot fasteners in minimally invasive right thoracotomy SAVR.



METHOD

From 2007 to 2019 430 patients underwent isolated minimally invasive SAVR through a right thoracotomy approach. Patients were stratified based on titanium knot fastener use and pre-operative, intra-operative, and post-operative variables evaluated. Data is compared using chi-square test for categorical variables and Mann-Whitney-Wilcoxon test or T-test for continuous variables.

CONCLUSION

Based on our experience titanium knot fasteners greatly facilitate minimally invasive right thoracotomy SAVR and should be utilized.

REFERENCES

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RESULTS

Median length of stay was 2 days lower for patients where TKF was used (8 vs 6 days, $p<0.05$).

Procedure time was 51 min shorter in the TKF group and cross clamp time was 22 min shorter (see table).

Thirty-day mortality was low and did not differ between the TKF (0%) and No TKF (0.3%) groups. Readmissions, re-operative bleeding, and pacemaker rates were not significant between groups (see table).

Variable	TNF (n=327)	No TNF (n=103)	p-value
STS Score (mean)	1.5	2.3	<0.05
Procedure time (min)	165	216	<0.05
Cross Clamp time (min)	63	85	<0.05
LOS (days)	6	8	<0.05
30-day mortality	0.3%	0%	NS
Prolonged Vent	4.2%	9.7%	NS
Re-op Bleeding	2.1%	3.8	NS
Pacemaker rate	3.3%	1%	NS