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Long Term Survival Rate of TAVR With and Without Dialysis

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BACKGROUND / INTRODUCTION

- Transcatheter aortic valve replacement (TAVR) is an increasingly conventional minimally invasive procedure for high risk patients with severe aortic stenosis.
 - Avoids complications associated with a median sternotomy and the heart lung machine
 - Long-term patient survival and valve durability are not completely known.
- For patients coincidingly on dialysis:
 - Previous studies have illustrated a faster degeneration of the transaortic valve leaflets
 - Regular cost of valve: \$32,000 and cost of procedure: \$70,000

OBJECTIVE

- The study seeks to examine the survival rates of regular and hemodialytic TAVR patients

METHODS

Classified

- Single-center retrospective review of all TAVR patients from 2012-2017 at the Lehigh Valley Health Network.

Reviewed

- The in-house database and electronic medical record were used to assess the patient outcomes. Additional telephone interviews were conducted with patients in the post-operative phase of their care.

Analyzed

- Descriptive statistics were used to evaluate the significance of survival rates of TAVR patients who were coincidentally on dialysis.

OUTCOMES

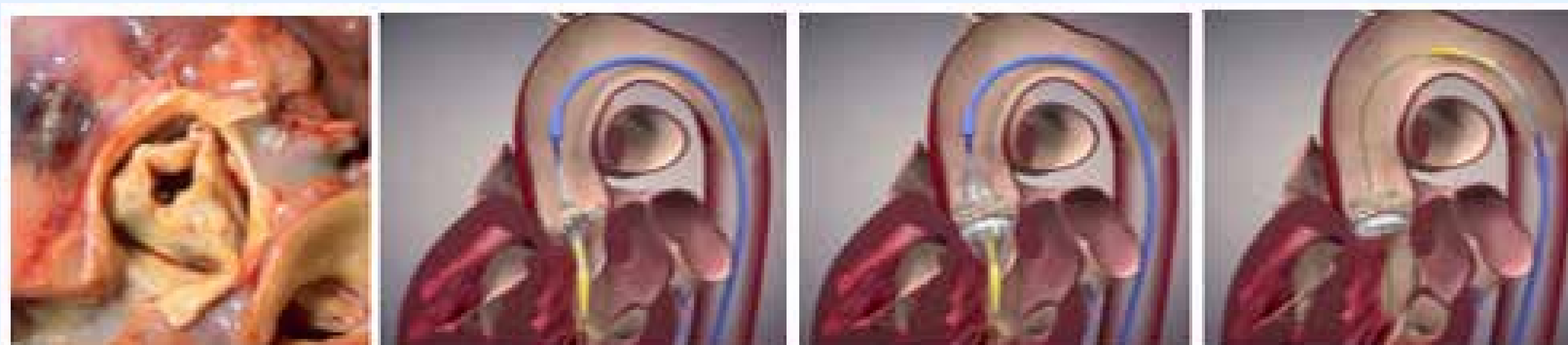


Figure 1: Diagram of aortic valve throughout procedure.

Image on the left illustrates calcification from aortic stenosis and the three following images represent the major steps in performing the mechanical replacement

Table 1. Summary of TAVR Patient Mortality

Factor	Number of Events ^a		Number Censored ^b		Total Sample Size
	N	%	N	%	
0	103	19.96	413	80.04	516
1	7	50.00	7	50.00	14
Overall	110	20.75	420	79.25	530

Factor 0: Non-Hemodialysis patients Factor 1: Dialysis

Survival Rates of TAVR Patients on Dialysis

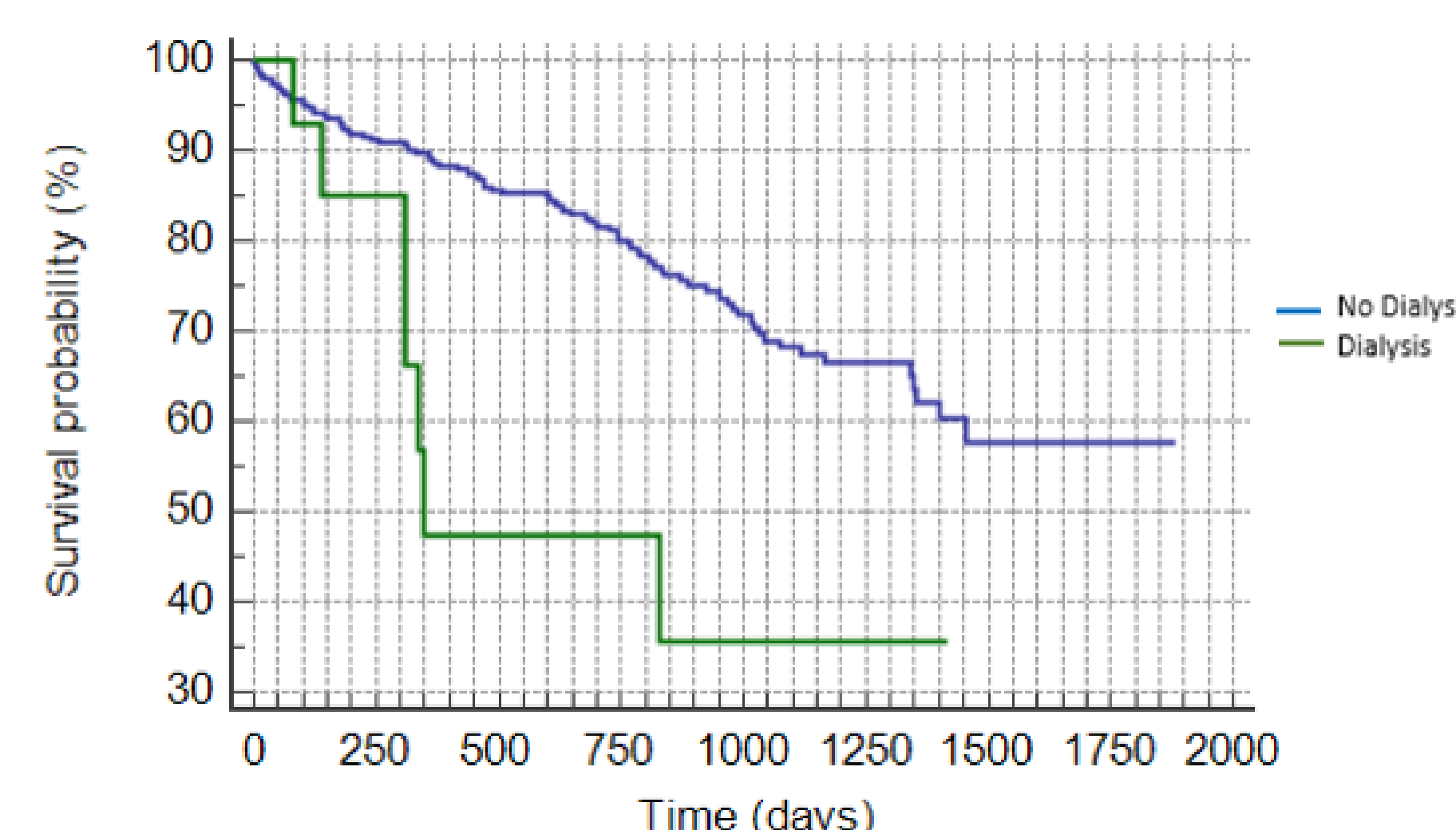


Figure 2: Kaplan Meier Curve of TAVR patients

The sooner and larger dip within the dialysis curve illustrates that patients on dialysis have a decreased survival rate. The data suggests that this is statistically significant $p=0.0035$

RESULTS

- 530 patients had the TAVR procedure
 - 110 died (20.75%)
 - 11 died within 30 days of the procedure
- 14 patients were coincidingly on dialysis
 - 7 died (50%)
 - $p = 0.0035$
 - p values <0.05 are statistically significant
 - Worse survival rate by a factor of three
 - Hazard ratio = 2.959; 95% CI 0.8381% to 10.446%
 - Average survival time of 2.02 yrs. (95% CI) PP
 - Median survival time of 0.953 yrs. (95% CI). PP

CONCLUSIONS

- TAVR has been successful for non-dialysis patients
- Significant decrease in survival rates for hemodialytic patients should draw caution to the cardiothoracic team as they assess a TAVR candidate.
- Further research is warranted to continue TAVR patient follow up and expand the existing TAVR database.

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