Long Term Survival Rate of TAVR With and Without Dialysis.

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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
- Single-center retrospective review of all TAVR patients from 2012-2017 at the Lehigh Valley Health Network.
- 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.
- Descriptive statistics were used to evaluate the significance of survival rates of TAVR patients who were coincidently on dialysis.

OUTCOMES
- 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

RESULTS
- 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.

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.

Table 1. Summary of TAVR Patient Mortality

<table>
<thead>
<tr>
<th>Factor</th>
<th>Number of Events</th>
<th>Number Censored</th>
<th>Total Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>103</td>
<td>413</td>
<td>516</td>
</tr>
<tr>
<td>1</td>
<td>7</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>Overall</td>
<td>110</td>
<td>420</td>
<td>530</td>
</tr>
</tbody>
</table>

References:

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Figure 1: Diagram of aortic valve throughout procedure.

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)

Figure 3: Kaplan Meier Curve of TAVR patients on Dialysis
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)