Anterior Discectomy and Fusion (ACDF): Does the Teaching Status of the Hospital Matter?

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Disclosures

• None
Academic Institutions and Outcomes

- Association b/w academic status and outcomes.
- Studies in several sub-specialties
- Sparse for cervical surgeries
Objective

• To identify the differences in patient demographics, hospital characteristics and surgical outcomes of patients undergoing ACDF between teaching and non-teaching hospitals.
Methods - Cohort

- National Inpatient Sample, 2012-2015

- Provides extensive data regarding hospital factors:
  - Bed size,
  - Location
  - Teaching status

- Patients undergoing ACDF (ICD9: 81.02) for degenerative disease

- Outcomes: Mortality, Complications, LOS, Discharge,
Results

• 51,770 patient undergoing ACDF in teaching hospitals

• 32,108 in non-teaching hospitals

<table>
<thead>
<tr>
<th>Variables</th>
<th>Teaching (n=51,770)</th>
<th>Non-teaching (n=32,108)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient Mortality</td>
<td>29 (0.06)</td>
<td>21 (0.07)</td>
<td>0.59</td>
</tr>
<tr>
<td>Admission Cost (in US Dollars)</td>
<td>16,757.7 (9,294.3)</td>
<td>17,496.1 (10,892.9)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Length of Stay (in days)</td>
<td>1.49 (1.57)</td>
<td>1.68 (2.03)</td>
<td>&lt;0.001</td>
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<tr>
<td>Discharge Disposition</td>
<td>1,923 (3.72)</td>
<td>935 (2.91)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Inpatient Morbidity</td>
<td>2,431 (4.70)</td>
<td>1,477 (4.60)</td>
<td>0.52</td>
</tr>
</tbody>
</table>
Results- Multivariable analysis*

- Teaching status found to have no impact on mortality, morbidity, or admission cost
- Teaching hospitals were more likely to discharge patients to a rehab facility or other non-acute care facility (non routine discharge) (OR 1.18, 95% CI 1.08 – 1.29, p<0.001)
- Teaching hospitals were likely to have slightly higher length of stay (B: 0.18, 95% CI 0.15-0.21, p<001)

*Adjusted for: Age, Gender, Race, Insurance, Income quartile, Hospital bed-size, Hospital Region, Comorbidities
Conclusions

- Patients undergoing ACDF at teaching hospitals may have higher length of stay, and higher odds of non-routine discharges compared to non-teaching hospitals.

- However, teaching hospitals had similar odds of inpatient mortality, odds of inpatient morbidity, and admission costs.

- Overall, each hospital has their own unique benefits which healthcare providers and users should account for. Further studies investigating safety and satisfaction measures for ACDF patients should be conducted.
Questions and discussion