Perioperative Predictors of Intraoperative Events, Complications, and Perioperative Mortality in Sacrococcygeal Teratoma Resections

Elaina E. Lin MD, Rebecca S. Isserman MD, Julia Rosenbloom MD, Kha M. Tran MD
The Children’s Hospital of Philadelphia, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA

Introduction

- Sacrococcygeal tumors (SCT) are a common congenital tumor.
- Surgical resections can occur in-utero, in the neonatal period, or in the post-neonatal period.
- We sought to identify perioperative predictors of intraoperative events, complications, and perioperative mortality.

Methods

- Retrospective chart review of patients who had surgical resection of SCT between Jan 1998 and Aug 2008.
- Demographic data includes: gestational age at birth, age and weight at time of surgery.
- Intraoperative characteristics include: estimated blood loss (EBL), transfusion, procedure time, complications, and mortality.
- Tumor characteristics include: Altman’s classification, tumor weight, and cystic vs. solid morphology.
- Statistical analysis performed with STATA 12.0.
- Basic descriptive statistics calculated for data set. Univariate comparisons performed with chi-square test for categorical values and ANOVA for continuous variables. Variables significant at the univariate level used in multivariate linear or logistic regression analysis.
- P value of <0.05 was considered statistically significant.

Results

Table 1: Case Demographics

<table>
<thead>
<tr>
<th></th>
<th>In-utero resection</th>
<th>Neonatal resection</th>
<th>&gt;30 days of life resection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of cases</td>
<td>2</td>
<td>30</td>
<td>6</td>
</tr>
<tr>
<td>Gestational age</td>
<td>24 (0)</td>
<td>36 (2.7)</td>
<td>NA</td>
</tr>
<tr>
<td>(mean±SD)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intraoperative</td>
<td>50%</td>
<td>3%</td>
<td>0%</td>
</tr>
<tr>
<td>mortality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 day mortality</td>
<td>50%</td>
<td>7%</td>
<td>0%</td>
</tr>
</tbody>
</table>

- Gestational age < 31 weeks perfect predictor of mortality
- Tumors with significant solid components associated with prematurity of <31 weeks
- Transfused volume > 185 mL/kg perfect predictor of mortality
- In determining ideal time of delivery, must weigh risks and benefits of prematurity vs. high output cardiac physiology.
- In high risk patients, platelets and coagulation factors should be readily available for surgery.

References