Introduction

Coarctation of the aorta, or narrowing of the aorta, is a common congenital malformation. It occurs in 6-8% of all congenital heart defects. The narrowing of the aorta usually occurs near the patent ductus arteriosus. Aortic coarctation often occurs with other heart defects, such as ventricular septal defect (VSD) and atrial septal defect (ASD). Underdevelopment of the aortic arch (aortic arch hypoplasia) is often associated with the area of coarctation.

Common surgical techniques for coarctation repair
- Lateral Thoracotomy: coarctectomy with end-to-end anastomosis
- Median Sternotomy: patch aortoplasty

Purpose
- Identify variables that affect long term outcomes of repair

Hypotheses
- Hypothesis 1: Patients with a transverse arch diameter ≥ 3 have a higher rate of recurrent coarctation than patients with a transverse arch diameter ≥ 3-8 vs. >3.
- Hypothesis 2: Patients that underwent repair via thoracotomy have a higher rate of systemic hypertension compared to patients undergoing repair via sternotomy.
- Hypothesis 3: Patients undergoing repair via thoracotomy have a higher rate of recurrent/residual coarctation than patients with a transverse aortic arch diameter ≥ 3 vs. >3-00/02-00.
- Hypothesis 4: Patients that underwent repair at greater than 30 days of age will have a lower rate of recurrence than patients that had surgery at or prior to 30 days.

Aortic Coarctation Repair Outcomes Based on Surgical Approach and Age

<table>
<thead>
<tr>
<th>Variable</th>
<th>Yes</th>
<th>No</th>
<th>p</th>
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</thead>
<tbody>
<tr>
<td>Surgery</td>
<td>Lateral Thoracotomy</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Age at Surgery</td>
<td>≤ 30 Days</td>
<td>6</td>
<td>9</td>
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<tr>
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<td>16</td>
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<tr>
<td>Transverse A.A.</td>
<td>≤ 3 vs. &gt;3</td>
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<td>3</td>
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<tr>
<td>Age at Surgery</td>
<td>&gt;30 Days vs. 1 year</td>
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<td>10</td>
</tr>
</tbody>
</table>

Table 2: Predictors of Coarctation Repair

Conclusions

The current data does not support an association between the studied variables and either recurrent coarctation or systemic hypertension.

However, the sample size is limited which limits the statistical power of our current study. Increasing the length of time reviewed may identify clinically important relationships between surgical variables and long-term outcomes.

References