Mini-Septal Dermoplasty for Pediatric Recurrent Epistaxis

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Introduction

- Recurrent epistaxis is a common condition in children
- Pediatric nosebleeds originate at Kiessebel's plexus or Little's area
- Most are self-limited and improve with avoidance of trauma, regular use of hydration and lubrication
- Occasionally, refractory cases may require in-office procedures such as simple cautery or b雷包
- In rare cases, recurrent epistaxis events may continue despite conservative measures
- Removal of the offending mucosa and replacement with a skin graft, known as septal dermoplasty and has been used in the management of refractory epistaxis in patients with hereditary hemorrhagic telangiectasia (HHT) and in children with coagulopathy
- In the modified procedure (MSD), the mucosal resection is limited to the offending hypervascular mucosa in Little's area, requiring only a small skin graft. This modification maintains normal nasal moisturization and patency, and results in little to no residual scarring at the donor site.

Methods

- Retrospective review
- Demographics (age, sex, race), epistaxis frequency, and interventions prior to the MSD procedure were recorded
- Procedure data: laterality, graft location, graft size, operative time, and estimated blood loss were recorded
- Post-operative data: graft healing, residual epistaxis, and nasal symptoms was recorded

Results

<table>
<thead>
<tr>
<th>Number of patients</th>
<th>Gender</th>
<th>Age at procedure</th>
<th>Race</th>
<th>Total # of nasal interventions for bleeding prior to MSD</th>
<th># of office interventions prior to MSD</th>
<th># of operative interventions prior to MSD</th>
<th>Time (months) between nasal interventions</th>
<th>Time from 1st Intervention to MSD (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6</td>
<td>2 male, 4 female</td>
<td>8.5</td>
<td>3.5 (median) (range: 3-8)</td>
<td>2.5 (Median) (Range: 1-8)</td>
<td>0.5 (Median) (Range: 0-3)</td>
<td>Median: 11.3 Mean: 8.9</td>
<td>Median: 40.0 Mean: 41.5</td>
</tr>
</tbody>
</table>

Medical comorbidities:

- Allergic rhinitis (4) Reactive airway disease (3) Atpic dermatitis (2) Anemia (2) Obesity (1) Seizure disorder (1) ADHD (1) OSA (1) GERD (1) Alpha thalassemia Trait (1)

Bleeding diathesis workup:

Hematology workup:

- CBC, PT/PTT, VWF assay and activity

Follow-up (Months):

- Mean: 7.2 Median: 13.1
- Range: 75-10.63

Mucosal Defect Area:

- Mean: 1.75cm² Median: 1.5cm²
- Range: 1-4cm²

Skin Graft Area:

- Mean: 4.0cm² Median: 3.6cm²
- Range: 3-6cm²

Conclusion

- MSD procedure is a powerful tool for the general and pediatric otolaryngologist in the treatment of pediatric epistaxis
- Study limitations included small sample size, recall bias during questionnaire, and inability to extend favorable results in patients with bleeding diatheses
- MSD is designed for children in whom the origin of the bleeding and the required mucosal resection are limited to the prominent vessels within Little’s area
- MSD criteria:
  1. A history of cautery at least four occasions in the past 2 years, or 1-2 occasions per year for 3 consecutive years;
  2. Poor quality of life due to nosebleeds; and
  3. A normal laboratory assessment for coagulopathy

Degree of improvement in epistaxis frequency and severity allows the otolaryngologist to have a profound, positive impact on children and their families

References