Outcomes of Infusion Drain for Treatment of Nasal Septal Abscess and Hematoma

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ABSTRACT

Objectives: Nasal septal fluid collections are associated with cartilage loss, nasal deformity, or in the case of an abscess, local spread of infection. Many reports favor drainage of these fluid collections under moderate sedation or general anesthesia. We review the outcomes of infusion drain placement at the bedside, previously described at our institution.

Study Design: Retrospective chart review.

Methods: Institutional review board approval was obtained prior to accessing patient records. Patients treated for nasal septal abscess or hematoma between 2009 and 2013 were included for analysis. Primary outcomes include duration of hospitalization, resolution of infection, complications, and need for additional treatment.

Results: Five patients were identified; four with nasal septal abscess and one with septal hematoma. Two cases required admission for intravenous antibiotics due to associated cellulitis. All cases were treated with bedside infusion, drainage, and infusion drain placement. Unremarkable resolution was universally experienced. One patient did experience recurrent widening and fullness of his anterior nasal septum. This required penrose drain placement into a dry septal pocket and nasal packing to resolve edema.

Conclusions: Infusion drain placement is a viable treatment option for nasal septal abscess or hematoma. All abscess patients experienced complete resolution of infection. Complications were limited to local edema that resolved with repeat incision and packing.

INTRODUCTION

Nasal septal abscess is an uncommon entity, most often a sequela of nasal trauma or septal hematoma. Even seemingly minor trauma may injure the nasal septum and lead to fluid collection between the cartilaginous or bony septum, respectively. It is estimated that septal hematoma occurs in < 1% of those treated for nasal trauma. Though rare, serious complications can occur, necessitating prompt diagnosis and treatment. Treatment is most commonly urgent surgical drainage and IV antibiotics.

We have previously reported a novel method for non-operative, bedside drainage of these collections via placement of an infusion drain. Patients treated with this drain and their short term outcomes are hence reported.

METHODS AND MATERIALS

Single institution retrospective chart review from 2009-2013 of patients treated for nasal septal abscess or hematoma.

Primary outcomes:
- Duration of hospitalization
- Resolution of infection
- Complications
- Need for additional treatment

RESULTS

Table: Patient & etiology, Collection, Inpatient, Resolution of Collection, Additional Treatment

<table>
<thead>
<tr>
<th>Patient &amp; etiology</th>
<th>Collection</th>
<th>Inpatient</th>
<th>Resolution of Collection</th>
<th>Additional Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>57 y/o M – trauma</td>
<td>Hematoma</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>37 y/o M – skin infection</td>
<td>Abscess</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>56 y/o M – idiopathic</td>
<td>Abscess</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>43 y/o M – idiopathic, immunocompromise</td>
<td>Abscess</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>59 y/o F – idiopathic, immunocompromise</td>
<td>Abscess</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

DISCUSSION

- Nasal septal fluid collections are associated with high morbidity levels due to cartilage loss. In the case of nasal septal abscesses, life threatening infection due to intracranial spread is possible.
- Prompt treatment is necessary via drainage. Surgical drainage in the operating room or under sedation most commonly reported in literature.
- We employed our bedside infusion drain in 5 patients. 3 patients were able to be discharged from the emergency room for outpatient follow-up.
- No patients required operative intervention.
- No intranasal packing necessary with initial placement.
- Our only complication was persistent widening and fullness of anterior nasal septum seen when he presented for outpatient follow-up five days after drain placement. No fluid collection present on aspiration. Penrose drain into area of prior pocket and five days of nasal packing relieved this fullness.

CONCLUSIONS

Intranasal abscess and fluid collections must be treated efficiently and effectively to prevent immediate, as well as long term, sequelae. Treatment involves expeditious drainage of the collection, antibiotics, and prevention of reaccumulation.

Infusion drain placement is a viable treatment option for nasal septal abscess or hematoma. The small but rigid properties of the infusion tubing allow it to remain within the fluid pocket and allows for continuous drainage and flushing as needed.

All patients experienced complete resolution of fluid collection. Complications were limited to one case of localized septal edema that resolved with repeat incision and packing.

REFERENCES


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