ABSTRACT

INTRODUCTION

• 1% rate of nasal septal perforations.

• Symptoms include epistaxis, crusting, congestion, malodorous discharge, whistling, and general discomfort.

• Iatrogenic injury from previous nasal surgery is the most common cause.

• Trauma, nasal sprays, drug use, autoimmune diseases, neoplastic disorders, and inflammatory etiologies are also often causes of perforations.

• Anterior perforations more likely to be symptomatic than posterior perforations.

• Techniques described for repair include those that use only local mucosal flaps to close the perforation and those that use local mucosal flaps with interposition grafts.

• We present a novel technique in closure of moderate-sized nasal septal perforations utilizing bilateral mucosal advancement flaps, one inferiorly-based flap advanced from the floor of the nose and another superiorly-based flap advanced from the lateral nasal wall.

METHODS AND MATERIALS

• Seven patients were identified who were treated with this technique between 2008 and 2010.

• Follow-up ranged from 6 months to 2 years. All seven had closure of their perforations as of last follow-up.

• The anterior-posterior length of the perforation ranged from 0.6 to 1.6 cm.

• Etiologies of perforations included systemic lupus erythematosis, trauma, recurrent catarzation, prolonged nasogastric tube placement, and cocaine use.

• No complications were encountered intraoperatively or postoperatively.

SURGICAL TECHNIQUE

• All tissues are injected with 1% lidocaine with 1:100,000 epinephrine, followed by decongestion with oxymetazoline-soaked pledgets.

• A hemitransfixion incision is made on the left, and submucoperichondrial flaps are elevated bilaterally.

• The edges of the perforation are carefully rimmed.

• An incision is then made in the anterior to posterior direction at the attachment of the inferior turbinate to the lateral nasal sidewall (Figure 1). Using the Cottle elevator, the mucosa is carefully elevated off of the floor of the nose.

• Once the entire flap is elevated, it is rotated and advanced into position to cover the perforation on the left (Figure 2).

• Attention is then turned to the right side, and an incision is made at the junction of the upper lateral cartilage and the septum or from the medial surface of the upper lateral cartilage (Figure 3), depending on how much mucosa is needed. A Cottle elevator is used to elevate the mucosal flap from the lateral nasal sidewall.

• This flap is rotated and advanced into position to cover the perforation on the right (Figure 4).

• Cartilage is placed between the flaps.

• The left-sided flap is sutured to the superior edge of the perforation and the right-sided flap is sutured to the inferior edge of the perforation using 5-0 chromic gut suture.

• The septum is then closed using a 4-0 plain gut suture on a Keith needle.

DISCUSSION

• We utilize bilateral advancement flaps with cartilage positioned between the flaps to provide structural integrity back to the septum.

• Advantages of technique:
  • Natural respiratory mucosa is not disrupted.
  • Technique can be done in conjunction with other procedures that may be needed for relief of nasal obstruction
  • Technique can be done via an endonasal/endoscopic or open approach.
  • The single stage procedure.
  • Well-vascularized flaps, especially that from the floor of the nose.

• Disadvantages of technique:
  • Only utilized thus far in perforations up to 1.6 cm in size.

CONCLUSIONS

• Bilateral mucosal flaps with non-opposing suture lines are useful for closure of at least moderate-sized nasal septal perforations.

• Utilization of the technique in more patients and larger perforations will identify the maximum size of perforation for which this technique can be used.

REFERENCES


