INTRODUCTION

Nasal septal hematoma is defined as collection of blood between the cartilaginous septum and its overlying mucoperichondrium, mostly from blunt nasal trauma. The condition warrants urgent surgical intervention and careful follow-up.1,2 A delay in treatment leads to septal cartilage necrosis within days, leading to profound functional and aesthetic sequelae. Secondary bacterial infection can supervene, turning it into a septal abscess predisposing to orbital and intracranial suppuration.

The recommended treatment of HANS is urgent surgical drainage by a wide septal incision. Several techniques have been described to ensure complete drainage and prevent recurrence and complications.1,3 A frequent concern with many techniques are problems of recurrence and need for nasal packing. Both these issues delay recovery and may require hospitalization. This manuscript describes the use of a modified continuous quilting sutures technique without nasal packing. To the authors’ knowledge, so far this specific technique has not been described for treatment of HANS.

THE TECHNIQUE

Under meticulous asepsis, wide incision drainage was performed under local anesthesia by the same surgeon (the author) in all cases, with the exception of one 7-year child in whom general anesthesia was used. A wide Freer incision was made and blood clots and/or pus evacuated. A note was made of the state of septal cartilage. Necrotic septal cartilage was excised and the “septal cavity” (pathological space from where hematoma and abscess were drained) irrigated with saline. Bacterial cultures were taken where pus or granulations were found.

Quilting sutures were applied with 3/0 dyed Vicryl on a 30 mm curved atraumatic needle. A needle holder, slightly angled at the shaft, was used for accurate visualization during placement of sutures. The needle was initially passed through the upper posterior part of the septum (Figure 1, step 1), through the ipsilateral septal flap and septal cartilage (if present) to emerge from the septal flap on the opposite side (Figure 1, step 2). This manoeuvre was then repeated in the opposite direction (Figure 1, step 3), so that the needle now emerges in the ipsilateral nasal cavity (Figure 1, step 4). This step was continued several times over the entire extent of septal flaps in the area of the septal cavity so as to fully approximate them, thereby resembling a sutured quilt. A surgical knot was placed finally between the two suture ends, thus fully coaptating the flaps (Figure 2). Care was taken to keep a distance of at least 1 cm between the entry and exit points of septal sutures to avoid the risk of an iatrogenic septal perforation. A small area of the septal cavity towards the floor and the adjacent Freer incision was excised and the adjacent Freer incision was not included in sutures so as to create a drainage port to prevent any recollection of blood. No nasal packing was done. Post-operative monitoring included early detection of any recollection, epistaxis or advancing infection.

DISCUSSION

HANS is seen uncommonly following the otherwise ubiquitous nasal trauma.2 Here, this technique is

NEW TECHNIQUE

Modified Quilting Sutures: A New Technique for Hematoma and Abscess of Nasal Septum

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ABSTRACT

This study aimed to analyze the results of a modified continuous quilting sutures technique in a series of patients presenting with hematoma and/or abscess of nasal septum (HANS). Only patients with a confirmed diagnosis of HANS without co-morbid conditions (which could predispose to a bleeding tendency), were selected. Following incision and drainage, nasal septal flaps were coapted by applying continuous quilting sutures only. The success rate of this technique in terms of recurrence requiring re-exploration and drainage was 100%. Quilting sutures were generally well tolerated with few complaints. Saddle deformity was the most obvious complication of HANS, seen with septal abscess. Quilting sutures can be considered as an alternative treatment option for HANS. The modified technique employed in this study demonstrated impressive results and avoided the morbidity of nasal packing with fewer complications.


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described in mostly young adults who had sustained HANS following boxing injuries. In a related study, Hydri et al. have reported a 62% incidence of septal hematoma secondary to facial trauma from boxing.4-6

Unique shearing forces from blunt trauma cause septal cartilage fractures and a hematoma between the septal flaps in a pathological space.7,8 When septal hematoma is not timely treated, cartilage destruction, secondary to ischemic and pressure necrosis, occurs within a few days. More ominously, the hematoma serves as a nidus for bacterial proliferation leading to a septal abscess.

HANS should be considered a rhinologic emergency. Treatment involves systemic antibiotics with incision and drainage followed by some means to keep the septal flaps approximated to prevent recollection and secondary infection. Nasal packs, splints, trans-septal/continuous quilting sutures with or without a drain or wick have all been described in combinations with variable results.6-9

This study exclusively employed quilting sutures for HANS with a modified technique. Simple quilting sutures have been described previously,1,2 combined with nasal packing and Penrose drain. However, the present study is unique for several reasons. One, the sutures were placed by a modified conventional non-endoscopic technique with an inferior drainage port. This probably accounted for no fluid recollection though blood stained rhinorrhoea continued for a few days. Second, no nasal packs or drains were placed.

Few minor long-term complications were seen. However, saddle deformity occurred in all cases of septal abscess.

The technique was employed in 19 patients, seen over a period of 2 years, with no recurrence or repeat procedure.

CONCLUSION

The described technique is reliable, readily learnt, simple to perform, and does not require any special instrumentation/equipment. The promising results achieved by this technique probably owe to timely intervention, careful attention to technical details and steps, and diligent postoperative care.

REFERENCES