

Short Communication

Nasal septal hematoma: Using tubular nasal packs to achieve immediate nasal breathing after drainage

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Nasal septal hematoma is the collection of blood between the cartilage or bony septum and its mucoperichondrium or mucoperiosteum. The most common symptoms in children include nasal obstruction, pain, and rhinorrhoea. Asymmetries of the septum with a bluish or reddish fluctuance suggest a hematoma. Delayed diagnosis and treatment may result in abscess formation, septal perforation and intracranial complications. Therefore, urgent surgical drainage is indicated for all nasal septal hematomas. After drainage, it is conventional, to pack both nostrils with gauze strip as in anterior epistaxis, to approximate the perichondrium to the cartilage. The drain and packing remain in place until the drainage stops for 24 h; this usually takes 2-3 days. These methods of packing the nasal cavity are associated with mouth breathing which can be very uncomfortable thus adding to the patient's postoperative morbidity. Rather than pack the nostrils with gauze strips as in anterior epistaxis, we used a fenestrated portex endotracheal tube that just firmly fits the patient's nasal cavity and extending from the posterior choana to about ½ inch beyond the collumela. This allowed for nasal breathing and mucus drainage into the nasopharynx. The tube-drain/pack remained in place until the drainage stopped for 24 h. This prevented the discomfort of mouth breathing while ensuring a comfortable postoperative patient while asleep or awake.

Key words: Nasal septal hematoma, tubular nasal pack, immediate nasal breathing.

INTRODUCTION

Nasal septal hematoma is the collection of blood between the cartilage or bony septum and its mucoperichondrium or mucoperiosteum. It may be unilateral or bilateral with possible aetiological factor including trauma, bleeding disorders, violent sneezing, and drugs such as aspirin and warfarin. Septal hematomas are uncommon sequelae to trauma in children (Ginsburg and Leach 1995) but may follow even minor falls. In adults, septal hematoma typically occurs with significant facial trauma and nasal fracture. A Septal hematoma may present without any signs of external trauma (Matsuba and Thawley, 1986).

Nasal septal hematoma with or without concomitant injuries should raise suspicion for child abuse, especially in infants and toddlers (Ngo and Schraga, 2009). Following nasal trauma, buckling forces may pull the

perichondrium from the cartilage tearing the submucosal blood vessels resulting in stagnant blood (Ginsburg and Leach 1995). This strips the perichondrium off the cartilage with a resultant cartilage necrosis if unrecognized and drained urgently (Junnilla, 2006).

The most common symptoms in children include nasal obstruction, pain, and rhinorrhoea (Canty and Berkowitz, 1996). Hyposmia, variable degrees of fever, and constitutional signs may also occur.

A septal hematoma may be present with or without any signs of external trauma (Matsuba and Thawley, 1986). These may include: a bluish or reddish fluctuant swelling at the anterior part of the septum, nasal dorsum displacement, and nasal tip tenderness on palpation. Occasionally, gross fluctuation of the swelling with probing, suggests necrosis of the septal cartilage. The swelling shows no change in size with topical vasoconstrictors.

Diagnosis is usually clinical based on history and physical findings. The Otolaryngoscope can be used to aid anterior rhinoscopic examination. Delayed diagnosis and treatment

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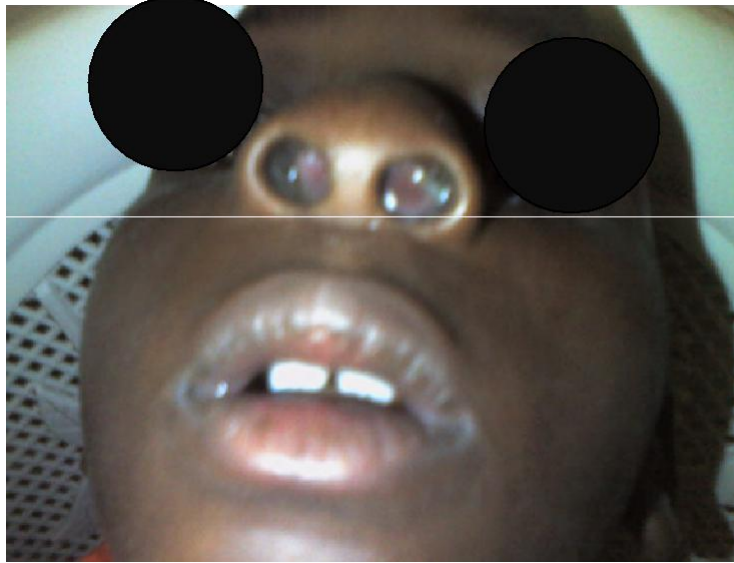


Figure 1. Septal hematoma at presentation showing mouth-breathing with clear mucoid rhinorrhoea.

of hematoma may result in abscess formation, and septal perforation may follow (Wilson and Milward, 1994; Blahova, 1985). Intracranial complications may result from direct spread of infection through the emissary veins into the cavernous sinus (Wilson and Milward, 1994) with consequent high morbidity and possible mortality (Eavey et al., 1977). Late complications may include cosmetic deformities such as saddle-nose deformity, septal deviation, retraction of the columella, Loss of tip support, growth retardation, and atrophic rhinitis.

Therefore urgent drainage is indicated for all nasal septal hematomas (Chukuezi, 1992). In children, drainage is done under general anaesthesia with orotracheal intubation. The patient is positioned supine with some elevation of the head to allow drainage of the pus out of the nose. Aspirate is collected with an 18-20 ag syringe and sent for microscopy, culture and sensitivity. Prophylactic antibiotic is usually given parenteral when presentation is delayed.

CASE REPORT

A 9 year old boy presented to the Otorhinolaryngology (ORL) clinic, University of Calabar Teaching Hospital, Calabar, Nigeria with a 2 weeks history of persistent nasal obstruction, mucoid nasal discharge and swelling in the nostrils. There was no history of trauma, falls or violent sneezing. There was no past history of excessive bleeding following injuries. On examination, patient was a healthy looking, afebrile, mouth-breather with a broadened dorsum of the nose. There were no signs of external nasal or facial injuries. Anterior rhinoscopy revealed a bilaterally symmetrical bluish to reddish fluctuant

septal swelling. Systemic examinations showed essentially normal findings. A diagnosis of septal hematoma queried abscess was made (Figure 1).

An urgent drainage under general anesthesia with endotracheal intubation was done via a linear incision at the most fluctuant part of the swelling on the left side of the septum. About 3 ml of serous to purulent matter was drained. A small section of the mucoperichondrium was excised and a Penrose drain inserted.

A portex endotracheal tube (FG 6.5) that firmly fit the patient's nasal cavities was selected, fenestrated and used as nasal packs to reapproximate the perichondrium to the cartilage. The tube was fenestrated by cutting out bit of portex from its superior and lateral sides at several points along its length. The fenestrated tube extended from the posterior choana to about ½ inch beyond the collumela. The tube-drain/pack allowed the patient to enjoy immediate nasal breathing and mucus drainage into the nasopharynx. The patient was very comfortable postoperatively while asleep or awake (Figure 2).

The Penrose drain remained in place until the drainage stopped for 24 h and was removed on the 3rd day post-drainage. The tube-drain/pack was removed on the 5th day post operatively without any incidents. The patient was discharged home on the 6th day and has been on close follow up in the last 6 months without any complications.

Consent was obtained from the parent of the patient to publish the pictures.

DISCUSSION

Drainage of septal hematoma is usually achieved via an



Figure 2. Fenestrated Portex tube nasal drain/pack showing immediate post-drainage nasal breathing with good mouth control.

incision on the septal mucosa over the area of greatest fluctuance without incising the cartilage. Staggered incisions are usually made for bilateral hematomas to avoid a through-and-through perforation. Any clot in the cavity is sucked out and then irrigated with sterile normal saline. A small section of the mucoperichondrium is excised to prevent premature closure of the incision. In addition, a small Penrose drain is inserted into the incision to facilitate drainage of the septum.

It is conventional, to pack both nostrils with gauze strip as in anterior epistaxis, to re-approximate the perichondrium to the cartilage. The drain and gauze nasal pack usually remain in place until the drainage stops for 24 h usually on the 2nd or 3rd day postoperatively. These methods of packing the nasal cavity is associated with mouth breathing which can be very uncomfortable with added postoperative morbidity.

Rather than pack both nostrils with gauze strips as in anterior epistaxis, the insertion of a fenestrated portex endotracheal tube that just fits the patient's nasal cavity, allows for nasal breathing and mucus drainage into the nasopharynx thus ensuring a comfortable postoperative patient whether asleep or awake.

Admission of patient for parenteral broad spectrum antibiotics is recommended when presentation is delayed. After hospital discharge, these patients should be followed up and evaluated periodically for 12-18 months to avoid cosmetic deformities (Ginsburg and Leach, 1995)

In our center, the nasal tube-drain/pack alternative has been used to achieve immediate postoperative nasal breathing and mucus drainage in a few other patients including: a neonate with bilateral choanal atresia, a 7-year old child with unilateral choanal atresia and two

young adults with post-traumatic atresia of the nasal cavity. In all these patient there has been no record of undesirable consequences after prolonged follow up.

In conclusion, the use of fenestrated portex endotracheal tubes to reapproximate the perichondrium to the cartilage after drainage of a septal hematoma is a patient friendly alternative to conventional nasal gauze packs. The immediate postoperative nasal breathing and mucus drainage into the nasopharynx ensures a comfortable patient while asleep or awake.

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