



## NASAL SEPTAL HEMATOMA WITH SEPTAL ABSCESS

### ENT

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### ABSTRACT

Nasal septal hematoma with abscess (NSHA) is a rare condition. Nasal septum abscess is defined as a collection of pus between septal cartilage and its perichondrium. Nasal septal hematoma with abscess (NSHA) is a serious rare complications after trauma to nose. Nasal septum abscess can be due to superinfection post operatively or post traumatic or by spread from neighbourhood like dental focus, skin infections or sinusitis. There can be spontaneous cause as well. Here we report a case of 23-year-old male of nasal septal hematoma with abscess with cartilage involvement with an objective to present immediate management and outcome. It should be dealt with urgency to avoid serious life threatening and aesthetic complications like sepsis and face deformity. Patient presented with bilateral nasal obstruction with pain for 14 days. Clinical history, Examination and Radiological investigation demonstrated a septal hematoma with abscess. It is managed by septoplasty with incision and drainage along with a course of broad spectrum antibiotics.

### KEYWORDS

Nasal trauma, Septal hematoma, Septal abscess, Nose deformity, Incision and Drainage

#### INTRODUCTION:

Nose is a very prominent facial structure and prone to injury<sup>1</sup> after road traffic accidents. Although nasal fractures are more common and septal hematoma or abscess are rare, most cases of septal hematoma or abscess arise from nasal injury. Nasal septal hematoma with abscess (NSHA) is a rare complication after trauma and very few cases are reported in the literature. Nasal septum hematoma with abscess can be due to superinfection post operatively or post traumatic. Septal hematoma results from traumatic separation of septal cartilage from overlying mucoperichondrium, which perfuses the cartilage. Cartilage destruction and superinfection with abscess formation can occur as a sequelae. The problem is more common in children because their septums are thicker and have a more flexible lining. Aerobic bacteria particularly staphylococcus aureus are most commonly isolated. Complications include sepsis, orbital involvement or cavernous sinus thrombosis and development of saddle nose deformity. Here we report a case of 23-year-old male of nasal septal hematoma with abscess with cartilage destruction after road traffic accident. The key is to prevent the formation of an abscess which can eventually result in a saddle nose deformity or septal perforation, both of which are potentially permanent complications.

#### Case Report:

A 23-year-old male presented to ENT OPD, NIIMS Hospital Greater Noida with complaints of bilateral nasal obstruction with pain in the nose since last 14 days after a road traffic accident. The pain was intense, localised to septum associated with bilateral nasal obstruction, breathing difficulty, and raised temperature. He was taking conservative treatment by a local practitioner without symptomatic relief before presenting to ENT OPD with excruciating pain and nasal obstruction with fever. He denied any substance abuse, previous nasal surgery and dental procedure.

On examination his vitals were stable with raised temperature. Spo<sub>2</sub> was 99% on room air. On Anterior Rhinoscopy both nares were narrowed, bilaterally septum was swollen, purplish in color, fluctuating and tender on touch. nasal mucosa and turbinates were inflamed.

Diagnostic nasal endoscopy was done to confirm the Anterior rhinoscopic findings and under endoscopic vision needle aspiration done and sent for culture and sensitivity. CT scan showed a hypodense nasal septum with necrosed nasal cartilage without filling maxillary and ethmoidal sinuses. Total leukocyte count found 14000 per mm and C-reactive protein (CRP) at 44.

By clinical history, examination, laboratory reports and radiological

investigations we come to diagnosis of bilateral nasal septum hematoma with progression to abscess.

#### Patient was planned for immediate operative intervention.

Written and verbal informed consent was obtained from patient. Septoplasty was done after one week of conservative management with broad-spectrum antibiotic cover. Incision and drainage was performed thereafter under general endotracheal anaesthesia. After Freer's incision, around 10 ml of pus was collected and sent for culture & sensitivity. Also, nasal cartilage was found necrosed during surgery and removed. After uneventful surgery & anaesthesia, patient was extubated and two Meroceles nasal pack were left for 48 hours. The patient was put on antibiotic therapy based on culture and sensitivity report for 7 days and regular nasal cavity douching was done.

#### Follow-up and outcomes:

The outcome after 2 months was favourable with good nasal functioning.

#### DISCUSSION:

Bilateral nasal septum hematoma with abscess (NSHA) is rare and serious condition. A very few cases reported till now in the literature<sup>2</sup>. The etiology of abscess varies from superinfection of post traumatic hematoma of the septum from sinuses or dental origin<sup>3</sup>, of which most common cause is nasal trauma. Dental & sinonasal infection are second most common causes. Also, some cases are reported in immunocompromised patients like asymptomatic HIV and uncontrolled Diabetes mellites<sup>4</sup>. Our patient had history of nasal trauma after road traffic accident following which he developed nasal hematoma and got further complicated to septal abscess because of his negligence to take proper treatment.

A septal hematoma can occur in any age group. The exact incidence of septal hematoma remains unknown. However, it has been reported to occur in 0.8% to 1.6% of patients with nasal injury attending ear, nose, and throat clinic. Unfortunately, a large number of cases often remain undiagnosed, especially in children, until complications occur<sup>5</sup>.

Trauma causes the rupture of submucosal vessels which ultimately causes a collection of blood between the cartilage and the perichondrium. Hematoma thus formed, results in pressure-related ischaemic changes and the subsequent necrosis of the septal cartilage. Cartilage destruction and superinfection with abscess formation can occur as sequelae<sup>5</sup>. The problem is more common in children because their septums are thicker and have a more flexible lining<sup>7</sup>.

Bilateral nasal obstruction and pain are common symptoms.

Rhinorrhoea, fever and headache are few common features<sup>8</sup>. Clinical examination is important for making diagnosis. Anterior rhinoscopy and diagnostic nasal endoscopy shows swollen nasal septum which was tender, fluctuating, inflammatory and purplish in color. This bulge is generally bilateral and mainly in anterior part of septum<sup>8</sup>. Radiological investigations like CT scan is investigation of choice to confirm diagnosis, cause, and complications if any<sup>10</sup>.

Treatment starts with conservative management based on culture and sensitivity report of aspirated pus<sup>11</sup>. Antibiotic therapy is mostly parenteral.

Surgical incision and drainage of abscess under anaesthesia is mainstay of treatment which starts with aspiration of pus for laboratory investigation. Freers incision is given as Incision & Drainage is coupled with septoplasty for removal of necrosed cartilage. Around 10 ml of pus was evacuated. The procedure ends with bilateral merocele nasal packing in each nostril for 48 hrs<sup>13</sup>. After removal of nasal packing, an endoscopic nasal examination should be done to rule out possibility of recollection. In case of secondary abscess, it is effective to treat primary focus first to avoid recurrence and sequelae<sup>14</sup>.

### CONCLUSION:

Bilateral nasal septum hematoma with abscess is a rare and serious condition which can lead to serious functional and cosmetic consequences. It can even be life threatening and lead to sepsis. The diagnosis is mainly clinical. Radiological scan confirms the diagnosis.

The treatment is Incision and Drainage and should be started on an urgent basis as soon as the diagnosis is made to prevent further complications.

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### Authors contributions:

Conceptualization and Resources - Avinash kumar., Writing -Original draft preparation- Himani Sharma., Writing, Review and Editing - Avinash kumar and Garima Sinha, visualization supervision - Avinash Kumar. Project administration -Avinash kumar and Himani Sharma



**Figure 1: Swelling of the nasal septum with pus point**

**Figure 2: Post operative picture after - Septoplasty and Incision and Drainage.**

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