

## Nasal Septal Hematoma Complicated with Orbito-Nasal Cellulitis

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DOI: <https://doi.org/10.36347/sjmcr.2026.v14i05.102>

Received: 16.03.2026 | Accepted: 11.05.2026 | Published: 30.05.2026

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### Abstract

### Case Report

Nose is the most commonly injured facial structure. Most nasal injuries do not require immediate intervention, but trauma resulting in septal hematoma is an exception. A nasal septal hematoma is a rare but serious complication of nasal or facial trauma. It refers to the collection of blood under the mucoperichondrium or mucoperiosteum of nasal septal cartilage or bone. It may be unilateral or bilateral, with the latter being more frequent in the setting of severe trauma. Rarely complicated with orbito-nasal cellulitis, is the extremely urgent. We report a case of a 15-year-old boy presented with acute bilateral obstruction, 3 days ago complicated with febrile syndrome, right orbito-nasal tumefaction with chemosis and facial pain. CT in favor of orbito-nasal cellulitis and with hematoma collections of acute appearance on paranasal sinuses. The drainage to avoid the hematoma is the treatment.

**Keywords:** Nasal septal hematoma, Orbito-nasal cellulitis, Nasal trauma, Cartilage necrosis, Incision and drainage, Nasal obstruction.

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## INTRODUCTION

Nose is the most commonly injured facial structure. Most nasal injuries do not require immediate intervention, but trauma resulting in septal hematoma is an exception. A nasal septal hematoma is a rare but serious complication of nasal or facial trauma. It refers to the collection of blood under the mucoperichondrium or mucoperiosteum of nasal septal cartilage or bone. It may be unilateral or bilateral, with the latter being more frequent in the setting of severe trauma. Complicated 72 hours without treatment by a local cellulitis, that are extremely urgent cases.

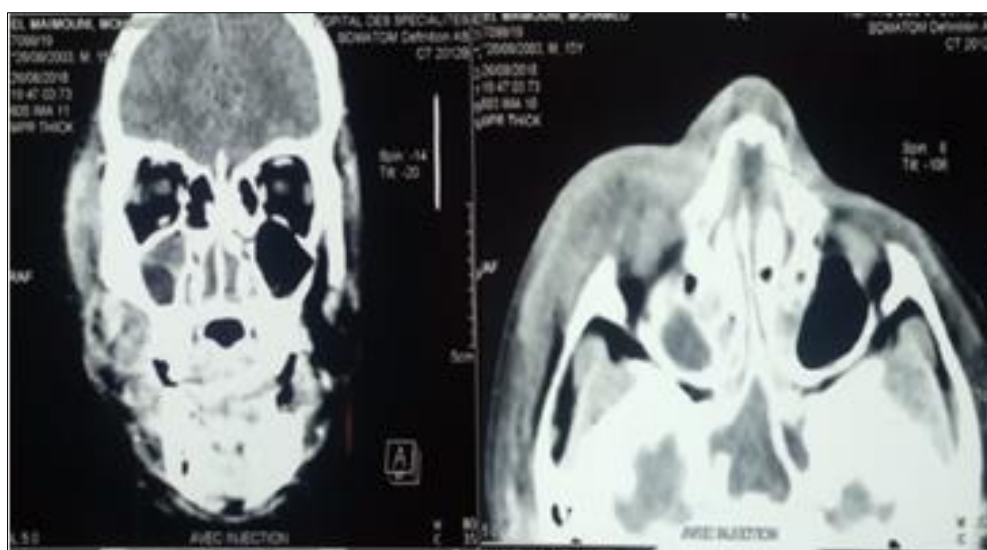
## OBSERVATION

Child 15-year-old admitted to emergency 3 days after the concept of nasal trauma during the game of football. Presented with bilateral nasal obstruction of acute onset, complicated by a febrile syndrome, orbito-nasal swelling, right pain and chemosis. On clinical examination hypertrophy of the septal nasal that obstructs the totality of the two nasal passages is observed. A gentle direct palpation confirmed the soft and fluctuant characters of the hematoma. A facial CT

shows the hematoma of the septum with right nasal orbito cellulitis. A nasal septal hematoma drained urgently to avoid undue complications. The procedure is a general anesthesia might be required in apprehensive adults and children. The patient lies in the reclining position with the head end of the table slightly raised, drained by incising the mucosa over the most fluctuant area. The incision is given in the anteroposterior direction parallel to the nasal floor. In case of bilateral hematoma, a staggered incision is made to avoid through and through the septal perforation. The clot is suctioned, and saline irrigation is carried out on an 18-Ga to 20-Ga catheter. A small piece of mucosa is excised from the incision edge for the better drainage and the prevention of premature closure. A small Penrose drain is placed into the opened hematoma cavity and secured with a suture. Nose is packed on both sides to prevent re-accumulation of blood. Systemic antibiotics are prescribed to prevent serious, infective complications. Pack and drain are usually kept in situ for 2 to 3 days and is removed only when there is no further drainage for at least 24 hours. The patient kept on regular follow up to prevent the delayed complications.



**Figure 1: the hematoma of the septum clinically**



**Figure 2: Facial CT confirmed the septal nasal hematoma and the orbito-nasal cellulitis.**

## DISCUSSION

A septal hematoma usually occurs secondary to nasal trauma. The latter can be in the form of sports injuries, road-side accidents, falls, assault or occupational injuries. Even a minor injury can lead to nasal septal hematoma, especially in children. In-fact a nasal septal hematoma without injury should raise the suspicion of child abuse, especially in infants and toddlers. Iatrogenic septal hematoma may arise as a complication of nasal surgeries like septal correction, endoscopic sinus surgery or turbinate surgery. Atraumatic septal hematoma is rarely seen in patients with bleeding diathesis or as an adverse effect of antiplatelet/anticoagulant drugs. A septal hematoma is a rare entity and can occur in any age group. The exact incidence of septal hematoma remains unknown. The exact mechanism underlying the formation of nasal septal hematoma remains controversial. Septal cartilage is an avascular structure, 2 mm to 4 mm thick, which receives its nutrients supply from the overlying perichondrium. Physicians hypothesize that trauma results in sharp buckling forces that pull the closely adherent mucoperichondrium from the underlying cartilage. This causes the rupture of submucosal vessels

which ultimately causes 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. If the trauma is severe enough, the septal cartilage gets fractured, and blood sweeps to the opposite side resulting in a bilateral septal hematoma. This situation is more hazardous as it doubles the compromise on the nutrient supply of septal cartilage and hastens the process of cartilage necrosis. Hematoma acts as an ideal medium for bacterial proliferation and colonization. If left untreated, it gets infected within 72 hours leading to the formation of a septal abscess and local extension to the orbito nasale and faciale location with a cellulitis forme. A nasal hematoma usually presents within the first 24 to 72 hours after trauma. However delayed presentation has also been reported. The most common symptom is the nasal obstruction (95%) which can be either unilateral or bilateral depending on the type of hematoma. Other symptoms include pain (50%), rhinorrhea (25%), and fever (25%). In many cases, symptoms are non-specific. Therefore, a high index of suspicion should be kept especially if a patient presents with nasal deformity and/or nasal pain following trauma. Also if a post-traumatic nasal obstruction does not resolve with a local

vasoconstrictive agent or blood clot removal, the possibility of nasal hematoma should be strongly considered. Clinical examination is usually confirmatory. It can either be accomplished with nasal speculum or otoscope. Blood clots, if any should be suctioned. Asymmetry of the septum with bluish or reddish mucosal swelling suggests a hematoma. Direct palpation is carried out by gently inserting the little finger into the patient's nose.

Usually clinical diagnosis. Rarely CT or MRI might be considered if the diagnosis is equivocal on physical exam. A nasal septal hematoma should be drained urgently to avoid undue complications. The procedure is a general anesthesia might be required in apprehensive adults and children. The patient should lie in the reclining position with the head end of the table slightly raised. Small hematomas can be aspirated with an 18-Ga to 20 -Ga needle. Larger hematomas are drained by incising the mucosa over the most fluctuant area. The Nose is packed on both the sides to prevent re-accumulation of blood. Systemic antibiotics are prescribed to prevent serious, infective complications. Pack and drain are usually kept in situ for 2 to 3 days and is removed only when there is no further drainage for at least 24 hours. Patients should be kept on regular follow up to prevent the delayed complications.

## CONCLUSION

A nasal septal hematoma is a rare but serious complication of nasal or facial trauma. Rarely complicated with orbito-nasal cellulites, is the extremely urgent. The diagnosis is primarily clinic then CT. The drained to avoid the hematoma is the treatment.

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