

Idiopathic Nasal Septal Abscess – A Case Report

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INTRODUCTION

Nasal septal abscess is a rare entity (1, 2) and is truly a rhinology emergency. The most common aetiology is usually trauma-related. In even rarer circumstances, no cause may be identified from the history or investigations and so may be termed idiopathic. This case is presented to highlight such an idiopathic case and to accentuate the importance of having a high clinical suspicion for patients presenting with nasal obstruction and features of toxæmia. Prompt diagnosis and immediate therapy is mandatory to avoid not only cosmetic nasal deformity but also life-threatening intracranial infections.

Keywords: Abscess, nasal, idiopathic, septal

CASE REPORT

A 55-year old man with no known chronic illnesses was referred to the emergency department with a one-week history of bilateral nasal obstruction, severe nasal pain and fever not responding to outpatient antibiotics. Two weeks prior to presentation, he underwent microlaryngoscopy for hoarseness which revealed Reinke's oedema. He denied any history of sinusitis, sinonasal surgery, dental disease or trauma.

On examination, he had bilateral swelling of the mucosa of nasal septum obstructing the nasal cavities. The rest of his examination was normal. His complete blood count was $14.2 \times 10^9/L$ with a neutrophilia of 73.1%. His random blood glucose was 7.1 mmol/L and he had a negative HIV test. Plain and post contrast computed tomography (CT) scan of the paranasal sinuses revealed a nasal septal abscess (Figure). There was, however, no evidence of disease in the sinuses.

Needle aspiration under local anaesthesia revealed purulent material which confirmed the diagnosis. The sample was sent for culture. Under general anaesthesia, incision and

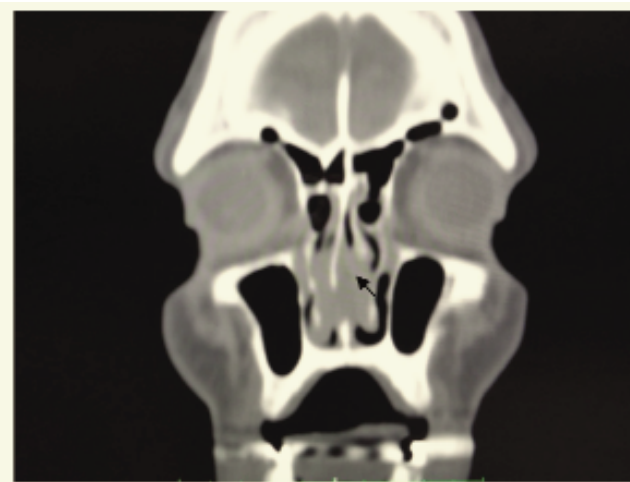


Figure: Coronal computed tomography scan of the paranasal sinuses revealing nasal septal abscess (arrow) and unremarkable maxillary, ethmoidal and frontal sinuses.

drainage was performed on the right anterior septum. There were small deficient areas of cartilage which allowed communication and drainage on the left-side. No necrotic cartilage was identified. The incision was left open and bilateral nasal sulfutule packs were placed and removed four days later. He was given intravenous amoxicillin clavulanate and clindamycin which resulted in improvement of his condition. Culture of the pus revealed moderate growth of methicillin resistant *Staphylococcus aureus* (MRSA) which was sensitive to clindamycin and Bactrim, and resistant to penicillin. Following one week of intravenous antibiotic treatment, his symptoms resolved. He was discharged on oral trimethoprim and sulfamethoxazole (Bactrim) and ciprofloxacin for seven days with a total of three repeated nasal swabs that demonstrated clearance of the organism. On follow-up three months later, he was well with no evidence of a saddle-nose deformity.

DISCUSSION

Nasal septal abscess occurs where there is a collection of pus between the cartilaginous or bony septum and the mucoperichondrium or mucoperiosteum (1). This condition is quite rare (2). Predisposing factors include nasal trauma in up to 75% of cases (3). Other causes are nasal surgery,

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furuncle of nasal vestibule, acute sinusitis, dental infection and immune deficiency (4). In the immunocompromised population, nasal septal abscess may be present without a history of prior trauma (4). Idiopathic nasal septal abscess is even more rare. It is not frequently encountered and has been documented rarely in the literature with only two published case reports (1). If the abscess is allowed to progress and remains untreated, the pus may disturb the blood supply to the septal cartilage by stripping off the overlying mucoperichondrium. The present microorganisms and the mass effect of the abscess can lead to necrosis of the cartilage within one to two days (2). Cartilage death may then lead to a septal perforation, septal or saddle nose deformities. In children, there may be abnormal development of the nose and maxilla which may lead to functional and aesthetic problems in the future (5). Apart from functional and cosmetic sequelae, there is also the risk of potentially life-threatening complications such as orbital cellulitis and abscess by contiguous spread. Furthermore, intracranial abscesses, meningitis and cavernous sinus thrombosis are potential fatal complications. The latter is as a result of the rich perineural anterior skull base lymphatics and valveless venous communications between the angular vein and cavernous sinus through the ophthalmic veins.

The most commonly isolated pathogen is *Staphylococcus aureus* which was cultured in the index case and treated. With the knowledge of bacteriology, it is recommended to initiate empirical therapy till the isolated organisms and their sensitivity are identified. Other microorganisms reported in this disease are streptococci and anaerobes (3).

With regards to presentation, nasal congestion is seen in 95% of patients with septal abscesses, nasal pain (50%), headaches (5%), fever (50%) and malaise (3). Physical examination reveals fluctuant, tender, bilateral or unilateral swelling of the anterior nasal septum. The external nose may be swollen, erythematous and tender, and there may be fever and leukocytosis. The patient in this case presented with nasal obstruction, pain and fever and was found on

examination to have bilateral swelling of his anterior nasal septum. In this case, there was no relevant history suggestive of any predisposing factors for nasal septal abscess development, but attentiveness by the otolaryngologists who referred the patient enabled a prompt diagnosis after suspicion. Once a nasal septal abscess is suspected, a CT is necessary to delineate the extent of the abscess and also to detect any predisposing factors. On CT there is seen widening of the septum with a submucoperichondrial collection. Blood investigations should be performed to rule out immune deficiency as a cause. In the index case, the CT showed a nasal septal abscess but the sinuses were normal.

Definitive treatment should be emergent and involve a mucoperichondrial incision and drainage under general anaesthesia. It also includes the administration of broad spectrum antibiotics followed by culture directed antibiotic therapy. Prompt diagnosis and treatment is very important to prevent the potentially dangerous spread of infection and the development of severe functional and cosmetic sequelae. In this case, there was prompt diagnosis and treatment which resulted in a successful treatment and outcome.

In summary, this case serves to remind us that even though nasal septal abscess is a rare entity, it should be considered in a patient presenting with nasal obstruction even without risk factors. Once diagnosed, prompt treatment is needed to prevent any serious sequelae of delayed management mentioned above.

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