

Nasal Septum Abscess Secondary to Furunculoid Eruption in Lower Limbs

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Abstract

The septal abscess is a rare otorhinolaryngological emergency, being composed of a collection of purulent content, which can be between the nasal septum and mucoperichondrium or mucoperiosteum that covers it. It occurs mainly due to *Staphylococcus aureus*, usually after nasal trauma, and having nasal surgeries, rhinosinusitis, dental infection and immunodeficiencies as a risk factor, being rare after episodes of furunculosis. Its most common symptom is nasal obstruction and anterior rhinoscopy reveals unilateral or bilateral edema. To aid the diagnosis, computed tomography of the nose and paranasal sinuses is used, which allows the identification of the size, location and position in relation to the airways. Treatment requires early drainage and antimicrobial therapy to cover all possible aerobic and anaerobic pathogens; otherwise, it can culminate in complications such as septal perforation, nasal deformity, orbital cellulitis, meningitis, subarachnoid empyema, intracranial abscess, cavernous sinus thrombosis and sepsis.

Keywords: Septal Abscess, Nasal Septum, Furunculosis

Introduction

Abscess of the nasal septum is defined as a collection of purulent content that can be between the nasal septum and the mucoperichondrium or mucoperiosteum that covers it. It is a rare condition, potentially fatal, but it can be treated with little tissue deformity, if the diagnosis and intervention are early [1].

The etiologic agent most commonly involved is *Staphylococcus aureus*, and they usually form after nasal trauma. Predisposing factors are also: nasal surgeries, nasal vestibule boils, acute rhinosinusitis, dental infection and immunodeficiencies [1-3].

The most common symptom in septal abscess is nasal obstruction. Other signs and symptoms can also be seen, such as local pain, fever, headache and increased perinasal sensitivity. Upon anterior rhinoscopy, the nasal septum is swollen uni- or bilaterally, especially in the

anterior portion [2, 3].

It is important that treatment be started as early as possible in order to avoid complications such as: septal perforation, nasal deformity, orbital cellulitis, meningitis, subarachnoid empyema, intracranial abscess, cavernous sinus thrombosis and sepsis [4-6]. Due to the potential for severity and the character of an otorhinolaryngological emergency, in addition to its rare finding, the relevance of this case report to the scientific community is noted.

Case Report

Female patient, 24 years old, complaining of nasal obstruction associated with local pain and increased nasal dorsum and tip beginning seven days ago, with worsening of the condition two days ago. She denies a previous history of local trauma or nasal surgery. Denies comorbidities. Ten days before the onset of the condition in the nasal

region, the patient reported the appearance of follicular erythematous papules on the lower limbs. On examination, on the left leg, there was a papular-nodular lesion, with a floating feature, with an exulcerated center, clinically compatible with a furunculoid lesion (Figure 1).



Figure 1: Furunculoid lesions in the lower limbs

On physical examination, the patient presented edema and hyperemia in the nasal dorsum, associated with bulging of the bilateral septal mucosa causing obstruction of the nasal fossae (figure 2).



Figure 2: A: Preoperative anterior view. B: Anterior view 5 days after surgery. C: Preoperative nasal base. D: Nasal base 5 days after surgery.

A computed tomography (CT) of the sinuses was requested, which showed a large collection adjacent to the bony and cartilaginous nasal septum in its entire length, measuring 7.7 x 1.2 x 6.0 cm (vol.: 29.0 cm³) reducing the amplitude of the bilateral nasal cavity, determined by the extensive collection (Figure 3).

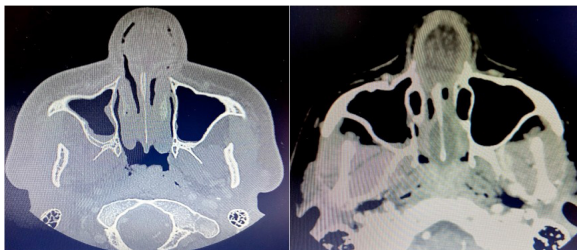


Figure 3: CT of the sinuses in axial section showing a collection adjacent to the nasal septum.

Surgical drainage of the septal abscess was performed under general anesthesia, initially by aspiration and then with a septal incision, washing with saline associated with vancomycin and placement of a

penrose drain (figure 4). At the time of surgery, it was found that the largest portion of the quadrangular cartilage was no longer present.

Empirical antibiotic therapy was then started with ceftriaxone and clindamycin. The culture of the drained collection showed growth of *Staphylococcus aureus*, sensitive to vancomycin, clindamycin, sulfamethoxazole / trimethoprim, levofloxacin, penicillin, oxacillin, erythromycin and linezolid. Serologies for hepatitis, HIV and syphilis were negative.



Figure 4: Surgical Drainage of the Septal Abscess, Initially Through Aspiration

CT of the sinuses for radiological control was performed 5 days after surgery, showing no collection next to the nasal septum (figure 5). The patient was discharged after 5 days of hospitalization with oral sulfamethoxazole / trimethoprim (figure 2). The patient is still under outpatient follow-up without recurrence 30 days after surgery.



Figure 5: CT of the sinuses for radiological follow-up in axial section (A) and coronal section (B)

Discussion

There are few articles in the literature related to our rare report of nasal septal abscess secondary to furunculoid lesions. The most common etiologies found are of traumatic origin or from previous nasal surgeries, but they can also be associated with immunosuppressive diseases⁷. Most cases arise from hematomas in the nasal septum. Chukuezi et al. described cases of 46 patients with septal hematoma, with a traumatic etiology found in 14 and spontaneous in 328. Ambrus et al reported 16 cases of abscesses of the nasal septum, 12 due to trauma, 3 without an established cause and 1 due to intranasal furuncle¹. In the present case report, after ruling out the most common causes, furunculoid lesions were found in the left leg simultaneously with nasal involvement. Bhaga and Maharaj also reported a patient with abscess of the nasal septum, without other possible etiologies, only previous furunculosis⁹.

The furuncle is a form of deep folliculitis, usually caused by staphylococci, affecting not only the hair follicle in its depth, but also the sebaceous gland attached [10, 11]. Staphylococcus aureus can cause serious deep infections and is clearly capable of invading the bloodstream and producing bacteremic infections. The literature suggests that staphylococci, as well as those from nasal colonization sites, can infect compromised skin and spread into the bloodstream from there. It is believed, then, that the abscess of the reported case was caused by the hematogenous spread of staphylococci originating from furunculoid lesions of the lower limb [12].

Wang and Chen described spontaneous nasal septal abscess with initial nasal obstruction, as well as the patient in this case [13]. Other reports in the literature also present this complaint, highlighting nasal congestion as the main symptom at the beginning of the condition [9, 14]. The bacterium Staphylococcus aureus is the most present, however the culture of the abscess secretion should not be ruled out, as other pathogens can be found, such as Streptococcus, Pseudomonas, Klebsiella, among others. In children, Haemophilus influenza is the most common, while fungal causes stand out in immunodeficient individuals [9, 13].

To aid the diagnosis, CT of the nose and paranasal sinuses is used, highlighting a lesion between the mucoperichondrium and/or mucoperiosteum and the cartilage and / or bone. CT identifies size, location and position in relation to airways and large vessels. Nasal septum abscesses have been uncommon lately, due to available antibiotics [15]. As occurred in this report, most studies show that patients obtain positive results with early drainage and antimicrobial therapy to cover all possible aerobic and anaerobic pathogens. After the procedure, sutures, drain and nasal packing are used to prevent new infection⁹.

Conclusion

Septal abscess is a rare otorhinolaryngological emergency, which requires early diagnosis and intervention, due to the risk of potentially serious complications. Due to the infrequency and possible severity of this condition, the reported case aims to expose the clinical characteristics presented by the patient as well as the trajectory from diagnosis to treatment, with emphasis on the rare hematogenous etiology due to furunculosis.

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