


Case Report

B-cell Lymphoma Presenting as Nasal Septal Perforation

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Sinonasal lymphoma is a rare clinical entity. Three main subtypes exhibit different clinical patterns and treatment outcomes. We report the first case of a B-cell lymphoma in a patient without any previous history of nasal surgery, trauma or drug use, who presented to our center with a nasal septal perforation.

Key Words: allergy/rhinology, nose and paranasal sinuses, sinus cancer.

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INTRODUCTION

Sinonasal lymphoma is a rare, sparsely characterized clinical entity in the literature. The three main subtypes of sinonasal lymphoma exhibit different clinical patterns and treatment outcomes.¹ The nasal cavity is more frequently involved in T-cell and NK/T-cell lymphoma, which is characterized by lethal midline aggressive disease with necrosis and destruction of the external nose, nasal septum, and hard palate. On the other hand, B-cell lymphoma is more commonly associated with involvement of the sinuses without nasal involvement.^{1,2} The most common symptoms in sinonasal lymphoma include nasal congestion, facial pain, and epistaxis.² We present a case of a B-cell sinonasal lymphoma presenting as a nasal septal perforation.

CASE PRESENTATION

This is a case of a 66-year-old man who presented to our medical center with nasal congestion and swelling of the external nose for a 1-week duration. Pertinent medical history includes a previous diagnosis of chronic lymphocytic leukemia (CLL). Nasal symptoms have been progressively worsening and associated with low grade fever and chills. The patient reported minimal non-colored nasal discharge but denied facial pressure, pain, headache, or visual disturbances. Examination of the external nose showed tender swelling of the nasal tip and alae with overlying skin erythema. Our otolaryngology

team was consulted, and a flexible nasal endoscopy was performed revealing a large anterior-mid septal perforation with crusting over its edges, and purulent secretions at the level of the middle meatus bilaterally (Figure 1A). The patient denied history of drug use, prior trauma, or sinonasal surgery. Computed Tomography scan of the sinuses revealed significant skin thickening and subcutaneous edema at the level of the nose along with evidence of mucosal disease with frothy secretions in the ethmoid air cells (Figure 1B). The patient was thus admitted for management of cellulitis with intravenous antibiotics and nasal saline irrigations. No further investigation regarding the septal perforation was done during the hospital stay given the acute infectious process. The patient received 2 weeks of IV antibiotics with marked improvement in his symptoms and was discharged home. He presented 2 months later to our clinic with similar but milder symptoms. Examination showed dry crusts over the perforation edges with healthy looking mucosa. Autoimmune workup was done and was negative. Decision was thus made to biopsy the edges of the nasal septal perforation and send tissue for pathology, which revealed diffuse involvement of the nasal mucosa by a dense and crushed lymphocytic infiltrate. The unexplained severe extent of the chronic inflammation and the patient's history of CLL prompted further investigation to the nature of the lymphocytic infiltrate. Immunohistochemistry revealed a significant predominance of the B-cell marker CD20 over the T-cell marker CD3, supporting the diagnosis of B-cell lymphoma (Figure 2A,B) which was consistent with the patient's history of CLL. The patient was then referred to his primary oncologist for proper management.

DISCUSSION

Nasal septal perforation is estimated to occur in 1.2% of the general population. It is usually associated with either trauma, intranasal or systemic drugs, infectious, inflammatory, or malignant diseases.³ Routine

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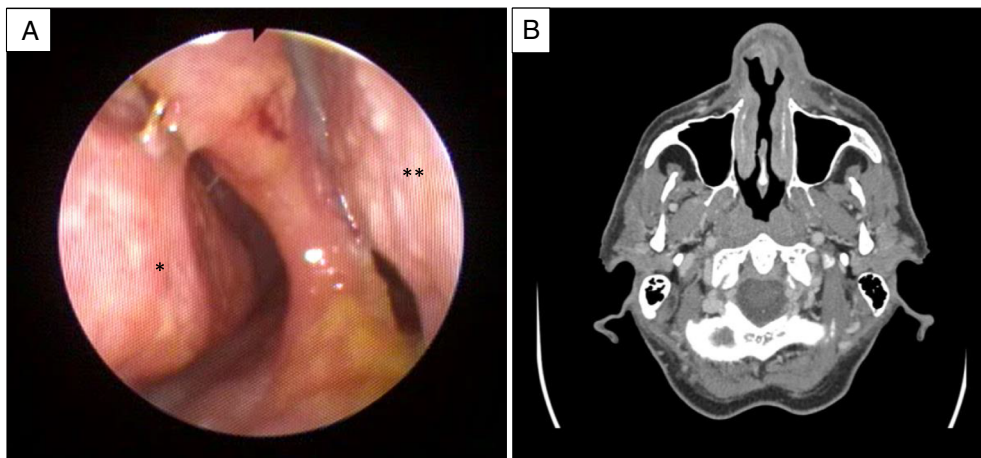


Fig. 1. (A) Nasal endoscopy showing the septal perforation with crusting around the edges and purulent secretions (*right inferior turbinate; **left inferior turbinate). (B) Axial CT scan cut with contrast showing significant cutaneous and subcutaneous inflammatory changes at the level of the nose. Note the septal perforation with no apparent sinonasal masses or collections.

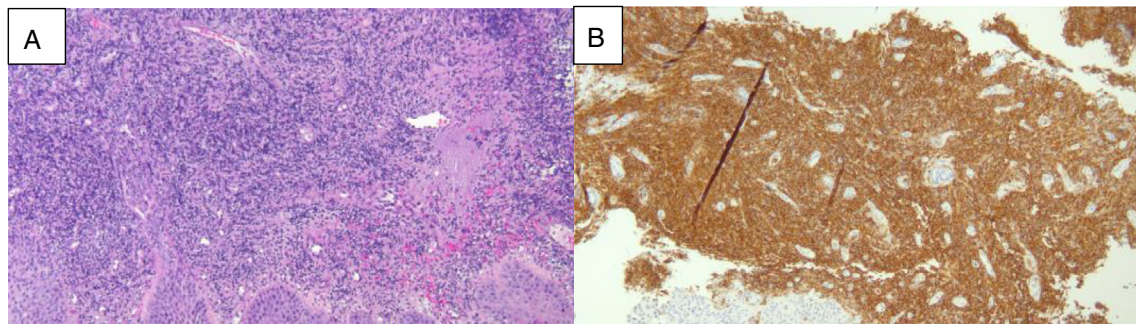


Fig. 2. (A) Hematoxylin and eosin (H&E) image of the nasal mucosa involved by a dense lymphocytic infiltrate. (B) CD20 Immunostaining depicts a predominant B-cell population.

biopsy of a nasal septal perforation is not usually performed, as it does not add much to the management in patients with clinically unremarkable septal perforations. A biopsy is, however, reserved for patients with a high clinical suspicion of malignancy.⁴

Clinical presentation of sinonasal lymphoma varies with the different types of tumors. The majority of the low-grade lymphomas present with a sinonasal mass associated with nasal obstruction and lymphadenopathy. High-grade lymphomas, however, are more likely to present with aggressive signs and symptoms such as facial swelling, pain, nonhealing ulcers, or bony destruction, with T-cell lymphomas most commonly associated with nasal septal perforation.² Histologic diagnosis is extremely important to differentiate between the types of sinonasal lymphoma which require different therapeutic regimens. Specifically, the mainstay of treatment of B-cell lymphoma is a combined modality with chemotherapy and radiation therapy, as it has been shown to have improved disease-free progression and overall survival.⁵

Our patient presented above complained of new onset nasal symptoms in the absence of a preceding event such as trauma or surgery. That, combined with

endoscopic findings of a new onset nasal septal perforation warranted further investigation. As a result, suspicion of a malignant process led us to biopsy the perforation edges, especially with a history of CLL, revealing B-cell lymphoma.

CONCLUSION

To our knowledge, this is the first report to describe B-cell lymphoma presenting with a nasal septal perforation. Such a presentation should prompt clinicians to keep a high index of suspicion for a malignant process and to include B-cell lymphoma in the differential diagnosis of septal perforation, as early detection of the lymphoma would be essential for prompt treatment and possibly a more favorable prognosis.

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