

## CASE REPORT

# Nasal NK/T cell Lymphoma Mimicking an Iatrogenic Lateral Nasal Wall Infection: A Diagnostic Dilemma

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### SUMMARY

Extra nodal NK/T cell lymphoma, 'nasal type' is a rare clinicopathological entity. The prevalence of nasal lymphoma is estimated at 0.17-1.5% for all non-Hodgkin's lymphomas (NHL), of which 45% originate from the NK/T cell. It is more commonly encountered in Asian countries. The main clinical features are nasal congestion and epistaxis due to local aggressive destruction. It has a distinct immunophenotypic profile of CD2<sup>+</sup>, CD56<sup>+</sup> and CD3<sup>-</sup>. The tumor often shows polymorphic lymphoreticular infiltrates and necrosis. We present a case of a 50-year-old male who presented with lateral nasal wall infection following endoscopic sinonasal surgery and later proven to be extranodal NK/T cell 'nasal type' lymphoma with immunophenotypic features.

### KEY WORDS:

NK/T cell lymphoma 'Nasal Type', Iatrogenic lateral nasal wall infection, Immunohistochemistry, Delayed diagnosis

### CASE REPORT

A 50-year-old Chinese male was evaluated at an outside institution for a 10 year history of intermittent epistaxis from the right nostril where he eventually underwent aggressive endoscopic cauterization with biopsy. Postoperatively, there was no significant improvement and he subsequently exhibited massive nasal bleeding which was stopped by nasal packing. Result of biopsy from the involved nasal mucosa was inconclusive and reported as a necrotic tissue. He was referred to our hospital for further management of the intermittent epistaxis with recent worsening of nasal symptoms. A diagnostic nasal endoscopy revealed extensive crusting of the lateral nasal wall. Biopsy specimens taken from the lateral nasal wall was reported as a necrotic tissue with no evidence of malignancy or granuloma. An empiric systemic antibiotic was prescribed for the provisional diagnosis of lateral nasal wall infection. Despite optimum medication, his nasal symptoms showed no significant improvement. On subsequent visit to the clinic, the patient still has endoscopic evidence of crusting and sloughing with necrotic tissues over the right lateral nasal wall. The patient underwent a limited revision right endoscopic sinus surgery which consisted of widening of the middle meatal antrostomy with trimming of the middle and inferior turbinate and biopsy taken from the right nasal tissue mass. Postoperatively, he experienced 60% improvement in nasal symptoms; however, subsequent endoscopic finding consistently showed area of necrotic tissue and slough and the culture results positive for Gram

positive cocci and staphylococcus aureus. Continuous gentamicin nasal saline douching and systemic antibiotic was prescribed. Histological evaluation revealed dense lymphoid cell infiltration of stroma which is angiocentric and angiodestructive with marked tissue necrosis. Immunohistochemical study showed neoplastic cells express CD3, CD56, TIA1 and are EBER-positive. Extranodal NK/T cell lymphoma, nasal type, was made on histological confirmation. The patient was referred to the oncologist where chemo-radiation was commenced elsewhere.

### DISCUSSION

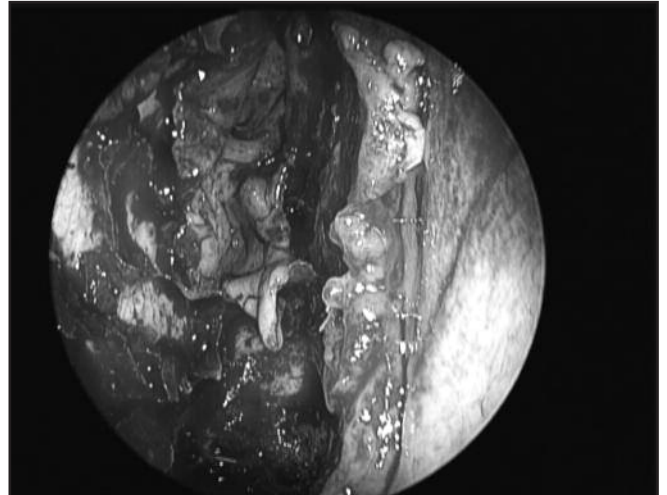
Extranodal NK/T cell lymphomas, 'nasal type' belong to the broader heterogeneous group of generally aggressive peripheral T cell lymphomas, which constitute less than 15% of NHL<sup>1</sup>. Its main characteristic feature is the destruction of midfacial region and represent the most common cause of lethal midline granuloma. There is male to female ratio 2:1 and it is encountered in all age groups (6-86 years). The common clinical features are nasal obstruction, purulent rhinorrhea, epistaxis and sore throat; however, the systemic symptoms such as fever and weight loss are not typically noted. Non specific nasal symptoms often predate the appearance of mucosal ulceration and tissue necrosis by a year or more which can cause delay in diagnosis. Majority of patients have localized disease with a destructive mass involving the nasal septum, lateral nasal wall and palate. Nasal septal perforation was reported in 40% of cases. As a result of widespread use of endoscopic sinonasal surgery for diagnostic and therapeutic purposes, satisfactory postoperative healing of the lateral nasal wall depends greatly on a meticulous intra-operative non traumatic technique and careful postoperative debridement. The injudicious use of biting forceps in removing diseased tissue can result in an inadvertent stripping of adjacent normal mucosa with exposed underlying bone which results in osteitis, granulation tissue, crusts and adhesion in the middle meatus. Because of extensive necrosis and reactive inflammatory changes, superficial biopsies are often inconclusive. Coagulative necrosis with angioinvasion and angiocentricity are highly indicative of NK/T cell lymphoma. The immunohistochemical markers show positivity for selected T cell related antigens (CD 2, CD3, and CD56) and expressed cytotoxic granule-associated proteins like TIA-1<sup>2</sup>. The coexistent coagulative necrosis, in combination with superimposed infections may mask the lymphoma. Evidence of Epstein-Barr virus has been found in all nasal T-cell

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**Fig. 1:** Pre-operative endonasal endoscopic view revealed extensive crusting with polypoidal tissue and slough of the right lateral nasal wall.



**Fig. 2:** Post-operative endonasal endoscopic view revealed wide middle meatal antrostomy with trimming of the middle and inferior turbinate

lymphoma. The delay in diagnosis was because the primary manifestation was mistaken for chronic rhinosinusitis as the lesion was confined to the lateral nasal cavity with no evidence of regional nodal disease. The main stay of treatment is irradiation of the involved area, with a field encompassing all the possible susceptible structures (paranasal sinuses, palate and nose). The close co-operation between the pathologist and the surgeon with high index of suspicion are essential because treatment delay may lead to a very poor prognosis.

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