Extranodal NK/T Cell Lymphoma presenting as Palatal Perforation with Oronasal Fistula


Abstract
A 26 years old female presented with fever, nasal stuffiness with blood stained purulent discharge, nasal twang in voice along with non-healing palatal ulcers since three months. Examination revealed a paramidline perforation in the hard palate causing oronasal fistula formation. Histopathology and immunohistochemistry suggested a diagnosis of extranodal Natural Killer (NK)/ T cell lymphoma. Multi-agent chemotherapy was instituted. We report this extremely rare case of Non-Hodgkin’s Lymphoma (NHL) of the extranodal NK/T cell variety presenting as palatal perforation.

Introduction
Extranodal NK/T cell lymphoma was formerly known as angiocentric lymphoma. It is characterized by extranodal presentation with angiodestructive proliferation associated with necrosis of the mid-facial structures and an aggressive clinical course.1

It has special predilection for the nasal cavity and paranasal sinuses.1 Nonspecificity of symptoms is the major obstacle in early diagnosis and management of this lymphoma. After a thorough review of the literature, this was found to be the only proven case of NK/T cell lymphoma presenting as palatal perforation with oronasal fistula.

Case Report
A 26 years old married female presented with complaints of moderate grade, intermittent fever with night sweats and nasal stuffiness since 3 months. She had a blood stained purulent nasal discharge and had developed palatal ulcers. There was recent history of nasal voice and nasal regurgitation of liquids. She was premorbidly healthy and had a full term normal delivery 2 years ago. She had not received any primary vaccination except BCG. There was no past history of malignancy, immunosuppressive therapy or substance abuse like cocaine.

She had been empirically started on antituberculous therapy (ATT) and oral fluconazole by an ENT consultant since 2 months without relief.

On examination, her vital parameters were stable. Local examination revealed a tender perforating ulcer of the hard palate with necrotic margins, in the left paramidline aspect opening into the nasal cavity (Fig. 1). A superficial ulcer situated at the junction of the soft and hard palate was also noted. Systemic and gynecological examinations were unremarkable.

Investigations were as follows: Hb-14.9 gms/dl, total leukocyte count- 7900 mm³ with neutrophils 68% lymphocytes 30%, eosinophils 2%, platelets 205,000/mm³, ESR-96 mm at the end of 1 hr. Urine routine and chest radiograph were unremarkable. Renal and liver function tests were normal.

Fig. 1: Perforating ulcer of the hard palate with necrotic margins, in the left paramidline aspect opening into the nasal cavity causing oronasal fistula. A superficial ulcer situated at the junction of the soft and hard palate is also noted.

Fig. 2: CT scan of the paranasal sinuses showing a bony defect of the hard palate in the left paramidline aspect (arrow) with thickening of mucosa in all sinuses.

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out TB. Similarly, in spite of isolating C.diphtheriae on culture and her unvaccinated status, the indolent disease course and unresponsiveness to 2 weeks of iv penicillin made diphtheria an unlikely etiology. Also diphtheria can cause soft palate ulcers but not hard palate perforation. The gammas of tertiary syphilis or rarely, 'lues maligna' of secondary syphilis may cause palatal perforation, however there was no history of promiscuity, VDRL was negative and histopathology ruled out gummatous pathology. Similarly, clinical features and histopathology were inconsistent with leprosy and zygomycosis. Wegener's granulomatosis could be ruled out by absence of pulmonary/renal involvement, no evidence of vasculitis on biopsy and ANCA negativity. Other rare considerations ruled out were cocaine sniffing and Behcet's disease.

Eventually, the presence of atypical lymphocytes infiltrating surrounding epithelium with dense infiltration of histiocytes, neutrophils, plasma cells raised the possibility of NHL. Subsequent immunophenotyping confirmed the diagnosis of NK/T cell lymphoma.

A similar case reported by Dr.Khopkar et al from K.E.M. Hospital, Mumbai was diagnosed as T cell NHL during the 3rd year after initial manifestation; however the NK cell origin could not be then confirmed.

NK/T-cell neoplasms are rare, the most common and well-characterized ones being the ‘nasal’ and ‘nasal type’ NK/T-cell neoplasms. Their characteristic histologic feature is an angiocentric/angiodestructive growth pattern with zonal necrosis. These tumors have a predilection for the nasal cavity and paranasal sinuses and were formerly called lethal midline granuloma.

Seen mainly in Asia and Latin America, they commonly affect males with a median age of 30 years. The commonest presentation in nasal variety is chronic nasal obstruction with purulent rhinorrhea. Systemic symptoms occur only in advanced cases. The ‘nasal type’ lymphomas involve the skin, gut, testis, kidneys, upper respiratory tract and rarely, the eye/orbit. Histologically, both are characterized by a mixed cellular infiltrate consisting of atypical lymphocytes, plasma cells, eosinophils, histiocytes and acute inflammatory cells. The diagnosis depends on identification of atypical lymphocytes. Majority of the tumor cells are large dysplastic cells with hyperchromatic or vesicular chromatin. Similar finding with large number of atypical lymphocytes and atypical mitoses was noted in our case. Angiocentricity and angioinvasion are generally seen (>60%), but often the picture is that of necrosis without angiocentricity. Peripheral or ‘cutaneous’ NK/T cell lymphomas account for only 10-15% of NHL (WHO-EORTC classification).

Immunohistochemistry and flow cytometry demonstrate the presence of T-cell associated markers like CD2, CD7, CD45RO and CD43. However, a loss of pan T-cell markers such as CD3 is often seen, which explains its weak positivity in our patient. These tumors often express the natural killer cell marker CD56 but not CD16 or CD57. Immunohistochemistry in this case confirmed the NK/T-cell lineage of the tumor by demonstrating a positive CD56 and CD3 with negative B cell markers.

Nasal NK/T cell lymphoma in Asians follows an aggressive course with high mortality. Multidrug chemotherapy followed by radiotherapy is the most effective treatment approach. The Hyper CVAD course A is followed by whole body irradiation. Young patients with advanced disease are offered bone marrow or stem cell transplantation. Those in whom marrow transplant
is not feasible are followed up with the Hyper CVAD course B.

This case thus illustrates the unusual presentation of a rare lymphoma that presented with innocuous symptoms. A high index of suspicion for malignancy led to a timely diagnosis of an aggressive and otherwise fatal disease process.

References


