Primary Extranodal T-Cell Non-Hodgkin’s Lymphoma of the Gingiva in a HIV Patient

Priya Shirish Joshi, Appasaheb Sanadi, Mahesh Pundalik Dudanakar, Satish Subrao Bhosale

ABSTRACT
Since the appearance of AIDS, there has been a significant increase in the number of cases of oral Non-Hodgkin’s Lymphoma (NHL). These lesions may occur in the oral cavity, but rarely appear on the gingiva. Oral HIV-related lymphomas exhibit an aggressive course and can mimic other oral tumors and infections, this can make early recognition difficult but the diagnosis is important. It is now considered that oral NHL’s serves as the first indicator of HIV infection.

Keywords: AIDS, Gingiva, HIV, NHL’s.


INTRODUCTION
Lymphomas are heterogeneous group of malignancies that arise in lymphocytic progenitor cells. The association between HIV and lymphoproliferative malignancy is a well documented phenomenon. Approximately 3% of HIV positive patients will develop lymphoma in the course of the disease.

Hodgkin’s Lymphoma rarely shows extranodal disease (1% cases) in contrast to Non-Hodgkin’s Lymphoma (NHL) (23-30% cases). Oral cavity as a primary site constitutes only 2% of all extranodal NHL. Only three reports could be traced in which the oral manifestations of NHL were discussed in detail.

Majority of adult Non-Hodgkin’s lymphoma are of B cell origin. Literature review reveals only a few cases of extranodal oral NHL of T cell origin. We report a case of extranodal NHL which presented as a gingival mass in a HIV-infected patient.

CASE REPORT
A 35-year-old female patient reported to the Oral Pathology department with a chief complaint of swelling on her upper left back gums since 1 month. The swelling had a gradual onset and continuously increased in size with associated mild pain.

Medical history: Patient was diagnosed with HIV two years back and was on antiretroviral drugs (abacavir (300 mg: 1, 2 × /day) and combivir 2 (150 mg lamivudine + 300 mg zidovudine 1, 2× /day) since then.

Personal history: Patient’s husband was a truck-driver and had died 2 years back because of AIDS.

Extraoral examination revealed facial swelling on the left side of the face leading to asymmetry (Figs 1A and B). There was no cervical lymphadenopathy. Differential diagnosis of lymphoma and kaposi’s sarcoma were considered.

Intraoral examination showed an inflamed, exophytic and lobulated mass in the maxillary posterior region (Fig. 2) fixed to underlying gingiva, round to oval in shape and red to purplish in color.

Morbid anatomy: Excised specimen received measured 3 × 4 cm in size, soft in consistency, brownish-black in color shown in (Fig. 3).

Radiographic findings: Panoramic radiograph revealed no evidence of bone destruction (Fig. 4).

Histopathologic examination: An incisional biopsy of the same lesion was performed 10 to 12 days prior to the
Primary Extranodal T-Cell Non-Hodgkin’s Lymphoma of the Gingiva in a HIV Patient

Table 1: Results of immunohistochemical stains

<table>
<thead>
<tr>
<th>Antibody</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMA</td>
<td>Positive for blood vessels cells interspersed between tumor cells. Negative for tumor cells which ruled out possibility of other round cell tumor than lymphoma.</td>
</tr>
<tr>
<td>CD117</td>
<td>Tumor cells are negative which ruled out possibility of follicular variant of non-Hodgkins lymphoma and Hodgkins lymphoma.</td>
</tr>
<tr>
<td>CD20</td>
<td>Tumor cells negative which ruled out B-cell lineage.</td>
</tr>
<tr>
<td>CD27</td>
<td>Tumor cells negative which ruled out Naïve B-cell lineage and plasma cell lineage.</td>
</tr>
<tr>
<td>CD3</td>
<td>Large round tumor cells shows strong positivity which suggests T-cell lineage.</td>
</tr>
</tbody>
</table>

Fig. 2: Intraoral photograph of gingival mass

Fig. 3: Excised tissue specimen

Fig. 4: Orthopantomograph (OPG) of the same patient

patient visiting the OPD and was reported as Non-Hodgkin’s Lymphoma. Based on the report of incisional biopsy, excision of the lesion was planned with due precautions considering the patient was HIV positive. H and E stained section of the excised lesion showed a covering of keratinized stratified squamous epithelium with underlying connective tissue showing loose fibrocellular with vascular spaces, adipose tissue and muscles at the base. The lesional tissue showed infiltration of malignant lymphocytes distributed in aggregates with thin connective tissue septae (Fig. 5A). The malignant cells show nuclear and cellular pleomorphism (Fig. 5B). Also noted was nuclear hyperchromatism, giant nuclei, atypical mitotic figures. All the above features were suggestive of malignant round cell tumor.

Immunohistochemistry (IHC) was planned to identify the cell of origin using a panel of markers which included CD117, CD20, CD27, CD3 and α-SMA. The results are mentioned in the Table 1 and are illustrated (in Figures 6A to D).

DISCUSSION

Lymphomas are the diverse and complex group of neoplasms affecting lymphoreticular system. They represent third most common malignancies of the oral cavity after squamous cell carcinoma and salivary gland neoplasms.

The annual incidence of head and neck NHL has increased since the last few years. Extranodal NHL as a distinct entity was first described by Issaacs and Wright in 1983. NHL is the second most common HIV-associated tumor after Kaposi’s sarcoma and the risk of getting NHL is 60 times greater in patients with HIV disease. The incidence of oral manifestation of NHL according to international literature is approximately 2% of all extranodal lymphomas.

HIV-associated NHLs are extranodal and have a predilection for sites in the head and neck region in 50 to 60% of cases. Of all the extranodal NHLs, oral cavity constitutes only 25% and 0.6% of them arise as a growing mass. The other manifestations can be ulcerations, mobility, early loss of teeth, delayed healing of extraction sockets or trigeminal neuropathy. Intraorally, the most common sites are vestibule, gingiva and palatal mucosa.

The lesion in the present case presented as inflamed, exophytic and lobulated mass over the gingiva. A study conducted to determine the gingival manifestations in HIV patients revealed neoplasms on the gingiva to be rare with only 6% occurrence. NHLs of gingiva have a prevalence of 0.6%.
Differential diagnosis of NHL in the oral cavity may include odontogenic inflammatory processes, periodontal disease, squamous cell carcinoma or other oral soft tissue malignancies, tumors of the minor salivary glands, tumors of the jaws, benign lymphoproliferative disease and metastatic tumors.9

Radiographic findings of NHLs include diffuse ill defined areas of bone destruction, loss of lamina dura, root resorption.9 In our case there was no bony involvement.

Histopathologically, the lesions exhibit connective tissue infiltrated by numerous round cells, vesicular nuclei, and prominent nucleoli with scanty cytoplasm. Atypical mitosis along with tangible body macrophages may be seen. In our case the histopathologic findings were similar to the reported literature. Immunohistochemistry has further contributed toward the classification of NHL. CD20, CD79a, MB2, CD30 are the B-cell markers and CD3 and CD45RO are T-cell markers.1 In our case, the tumor cells showed negative results with CD20, CD27 and CD117 markers but a strong positivity with CD3 marker indicating T-cell lineage.

Malignant lymphoma of the oral cavity has been described previously although reports on the occurrence of
intraoral extranodal T-cell lymphomas are scarce. It has been reported that only 21% of NHL’s are of T-cell origin.

CONCLUSION

Of the numerous manifestations of HIV, though NHL is the second most common malignancy; its occurrence on the gingiva is still rare. Many a times the oral lesions indicate the underlying immunocompromised state. Swift identification and prompt therapy is the key for better patient prognosis.

REFERENCES


ABOUT THE AUTHORS

Priya Shirish Joshi (Corresponding Author)
Professor and Head, Department of Oral Pathology and Microbiology Vasantdada Patil Dental College and Hospital, Sangli, Maharashtra India, Phone: 02332364400, e-mail: sangeetakov@yahoo.co.in

Appasaheb Sanadi
Lecturer, Department of Oral and Maxillofacial Surgery, Vasantdada Patil Dental College and Hospital, Sangli, Maharashtra, India

Mahesh Pundalik Dudanakar
Lecturer, Department of Oral Pathology and Microbiology, Vasantdada Patil Dental College and Hospital, Sangli, Maharashtra, India

Satish Subrao Bhosale
Postgraduate Student, Department of Oral Pathology and Microbiology Vasantdada Patil Dental College and Hospital, Sangli, Maharashtra India