



Case Report

The diagnostic landscape of diffuse large B cell lymphoma of the mandible: A case report

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Abstract

Lymphomas are a class of invasive haematopoietic malignancy constituting 2.2% of all humours of the head and neck. Two major set of lymphomas are Hodgkin's lymphoma and non Hodgkin's lymphoma (NHL) of which 90% are of the NHL group. The most frequently occurring NHL in the oral cavity is Diffuse Large B Cell Lymphoma (DLBCL) which involves waldeyer's ring, base of the tongue, buccal mucosa and hard palate. This paper underscores a case report of DLBCL complications and the characteristic features which contributed to the diagnosis.

Keywords: Lymphoma, non Hodgkin's lymphoma, Diffuse Large B Cell Lymphoma, Mandible.

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INTRODUCTION

Lymphomas are a varied type of tumours affecting the lympho reticular system. Lymphomas have been traditionally divided into Hodgkin's disease and non-Hodgkin's disease. Hodgkin's disease often present as focal disease, which includes cervical, axillary and inguinal nodes [1]. Non-Hodgkin's disease may spread extra-nodally, external to the lymphoid system and can occur in stomach, salivary glands and occasionally in oral cavity and jaws. Among the jaw pathologies, mandibular lesions are rare. Our study reports a case of primary non-Hodgkin's lymphoma in the mandible [2].

CASE REPORT

A 52-year-old male presented to the Department of Oral Pathology with a complaint of painless swelling in the right body of mandible since 4 months. The swelling was subtle in onset and slowly enlarged. Asymmetry of face was observed due to the swelling; there was no altered sensation in the chin area. His medical history and family history were not contributory. On observation, a solitary diffuse swelling was apparent in right body of mandible, measuring 3.5×3.5 cm in size. On palpation no local increase in temperature was observed and the swelling was non tender. It was hard in consistency and the surface was smooth. On intra oral evaluation the swelling extended from 44 to 48 region masking the buccal vestibule. Buccal cortical plate was expanded whereas lingual plate appeared normal.

The teeth in the region (44-45,47-48) were not mobile. 46 was missing with healed and smooth alveolar mucosa in its place. Intra oral radiograph and OPG showed a lytic lesion in right body below the apex of 45 not contacting the root. Otherwise the skeletal survey was normal. Incisional biopsy was performed after the routine blood analyses. Biopsy specimen exhibited sheets of atypical large lymphoid cells with high nuclear cytoplasmic ratio, coarse chromatin and insignificant nucleoli with irregular mitotic figures. The characteristics were indicative of large cell lymphoma. Immunohistochemistry was carried out which was positive for CD45 & CD20 and negative for CD3 (Figures 1, 2 & 3), which proved conclusively the lesion to be a B-cell lymphoma. CT scan of mandible showed break in cortical plate both on buccal & lingual side. Chest X-ray, ultra sound of abdomen, bone scan and bone marrow biopsy did not display any abnormality which substantiate the lesion to be localized.

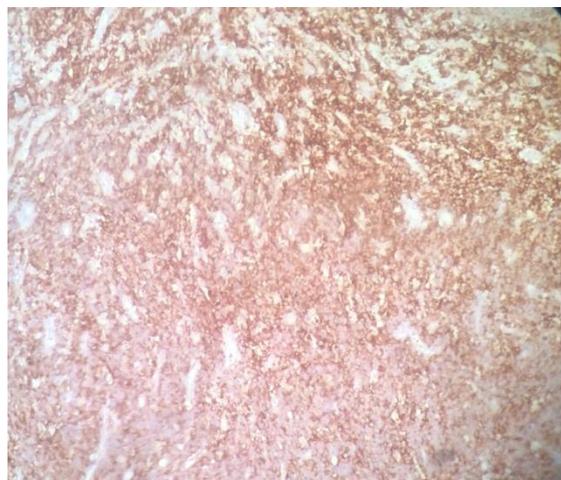


Figure 1: Immunopositivity for CD 45 (10X)

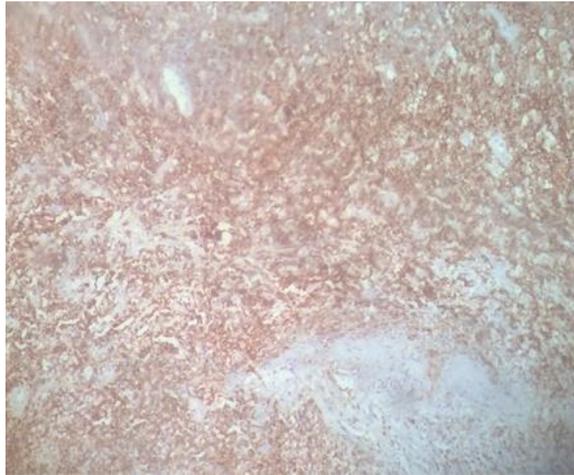


Figure 2: Immunopositivity for CD 20 (10X)

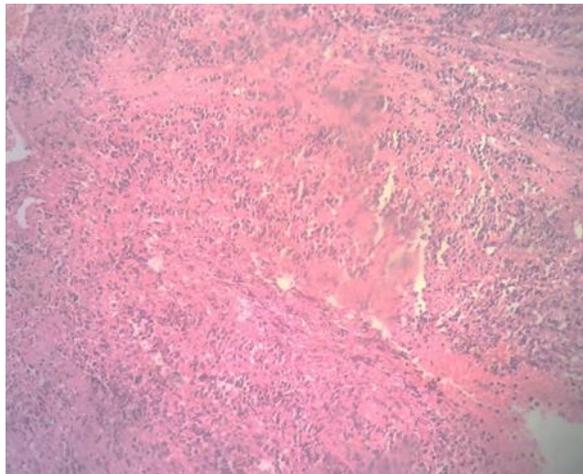


Figure 3: Immunonegativity for CD3 (10X)

DISCUSSION

Malignant lymphomas constitute a spectrum of malignancies of the lymphocytes & their precursor cells. Hodgkin's disease is distinguished histologically by presence of multi-nucleated Reed-Sternberg cells. All other tumour of lymphoid system are known to as Non-Hodgkin's lymphoma (NHL) and are originated from B- lymphocytes, T cells and NK cells. NHL represents up to 40% of the time at the extra nodal site [3]. Moreover, 2-3% of these extra nodal cases may arise primarily in the oral cavity and jaws. Jaw involvement by NHL is rare, but among jaw lesions, maxilla is more common than mandible. Lymphoma of the bone was first described by Parker and Jackson as primary reticular cell sarcoma of bone. There are no particular clinical characteristics when jaw bones are involved, they exist as swelling of the jaw, pain, numbness, tooth mobility or cervical lymphadenopathy. Lymphomas are chiefly present in male with male to female ratio 3:2. The average age of presentation is 50- 55 years. Radiographic demonstration of bone involvement may be absent in 10-20% of cases and the radiographic findings may not be specific [4,5]. There can be distributed bone damage, appearing as a remote defect or lowering of alveolar bone margin resembling periodontitisNHL

can be controlled by chemotherapy, radiotherapy and surgery in several combinations. NHL emerging in bone can be best treated by chemotherapy and may not require radiotherapy [6].

Histological evaluation of H & E stained tissue sections remains important for the practice of head and neck surgical pathology, immunohistochemistry has become a robust tool for the pathologist. The detection system for the immuno-histochemical analysis is made on the basis of their tumor specificity and the probability response of the tumor cells under evaluation [7]. IHC is a well-established supportive technique to enable the diagnosis of infectious and neoplastic processes. These tumor cells show either centroblastic or immunoblastic features. In advanced cases, swelling, pain, lip numbness and pathologic fracture are also associated with a primary bony lesion. The pathologist should examine the tissue section discretely under the light microscope. Immunohistochemistry is very helpful to rule out NHL in suspicious periapical lesions [8]. Therefore, clinico-pathologic correlation is crucial to conclude the correct diagnosis in clinically suspicious cases such as a malignant tumor in the jaw. The histology showed areas composed of irregular medium and large sized lymphoid cells with prominent nucleoli and a background of small lymphocytes. There were also apoptotic cells and debris indicating high proliferative activity. The histology confirmed the diagnosis of high-grade B cell lymphoma [9,10].

CONCLUSION

Lymphoma of mandible is rare; it must be evaluated in differential diagnosis of swellings occurring in that region. Diagnosis is accomplished in localized disease, whereas in disseminated disease it is less supportive. Lymphomas arising in bone may be definitely controlled by chemotherapy alone. Thus with the rising incidence of external-nodal lymphomas it is very important for present dentists to accurately study its pathology and treat the patients accordingly.

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Conflicts of interest

All authors declare no competing interests.

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