*Case Report*
**Journal of Pierre Fauchard Academy (India Section),** *Vol 34(3), DOI: 10.18311/jpfa/2020/25584, September 2020, p. 99-102*
*ISSN (Print) : 0970-2199*
*ISSN (Online) : 2405-772X*

# Primary Non-Hodgkin's Lymphoma of the Mandible in an Immunocompetent Patient

**Preeti Chawla Arora[1]*, Aman Arora[2], Easwaran Ramaswami[3] and Saurabh Arora[4]**

[1]Associate Professor, Department of Oral Medicine, Diagnosis and Radiology, SGRD Institute of Dental Sciences and Research, Amritsar, Punjab, India; dr.preets@gmail.com
[2]Associate Professor, Department of Prosthodontics and Crown and Bridge and Implantology, SGRD Institute of Dental Sciences and Research, Amritsar, Punjab, India
[3]Associate Professor, and Head, Department of Oral Medicine and Radiology, Government Dental College and Hospital, Mumbai, Maharashtra, India
[4]Senior Resident, Department of Pathology, GMC, Amritsar – 143001, Punjab, India

## Abstract

Non-Hodgkin's Lymphoma (NHL) is very commonly associated with immunosuppressive states. Its occurrence in an immunocompetent person is scarcely reported in literature. Although NHL is known to occur in the jaws, mandibular involvement with invasion in bone is an uncommon entity. Dental surgeons should be aware that NHL can present in the oral cavity as a non-tender swelling or ulceration and should be included in the differential diagnosis of oral swellings and ulcers. Histopathological examination, assessment of immune status of the patient and search for primary or metastatic lesions should be a part of the diagnostic work up. A case of NHL of the mandible in an immunocompetent patient with follow up is presented here.

**Keywords:** Immunocompromised State, Lymphoma, Malignant Lesions of the Jaw, Mandibular Bone Invasion, Non-Hodgkin's Lymphoma

## 1. Introduction

Malignant oral lesions can manifest centrally within the bone or can occur in the gingiva, palate and buccal vestibule. Patients often present with abnormal loosening of teeth, localized swelling or ulcer, pain and unsolicited numbness. Uncommon malignant lesions can present in the oro-facial region with non-specific symptoms. Non-Hodgkin's Lymphoma is one such entity which commonly occurs in association with immunosuppressive states like Human Immunodeficiency Virus (HIV) infection. It occurs more commonly in the upper jaw presenting as a soft tissue swelling on the palate and infrequently involves the bone. A rare case of primary Non-Hodgkin's lymphoma of mandible with bone involvement in an immunocompetent patient is presented here with follow up.

## 2. Case Presentation

A 72-year-old male reported with the complaint of swelling on the right side of face since two months. It was initially small and had gradually increased to the present size. Patient gave history of pulling out of mobile lower right posterior tooth around two and a half months back and subsequently developed the swelling. There was no relief on medication with analgesics and antibiotics prescribed by a general dental practitioner. Patient also gave history of paresthesia on right lower lip since two and a half months.

His medical history and family history was insignificant. The patient had a history of bidi smoking since 45–50 years. He was of thin built and exhibited pallor. There was facial asymmetry and right submandibular lymph nodes were enlarged, firm, non-tender and fixed to underlying

*Author for correspondence

structures. An extraoral swelling of approximately 7 × 5 cm was present in right ramus and posterior body of mandible with bucco-lingual expansion. (Figure 1A) It was firm in consistency, non-tender, non-fluctuant and overlying mucosa was normal. The swelling was bilobular, partly in right ramus region bucally and on right lingual sulcus (Figure 1B). A provisional diagnosis of a benign odontogenic lesion like odontogenic keratocyst and ameloblastoma was considered.

## 3. Investigations

Panoramic and PA skull radiograph (Figure 1C) showed an osteolytic lesion with ragged borders on right side of mandible. There was thinning of right cortex of mandible. Multiple patchy areas of radiolucency with salt and pepper appearance were present in the right condyle and subcondylar region. Mandibular canal was not traceable on right side. The radiographic findings were indicative of a malignant lesion probably a metastatic/haematologic malignancy or central squamous cell carcinoma. Viral markers test was done and the patient was non-reactive for HIV.

The patient was advised scintigraphy (bone scan) to find out the primary tumour, in case of suspected




**Figure 1.** **A.** Pre-treatment picture of the patient showing extraoral swelling. **B.** Intraoral swelling on buccal and lingual aspect of right side of mandible. **C.** PA skull view showing osteolytic lesion on right side of mandible. **D.** Post treatment picture showing regression in size of the swelling.

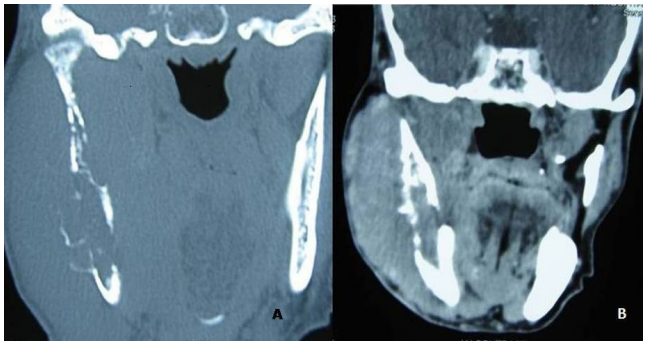



**Figure 2** **A&B.** Contrast enhanced CT findings were suggestive of an expansile destructive lesion involving the right angle and ramus of mandible.

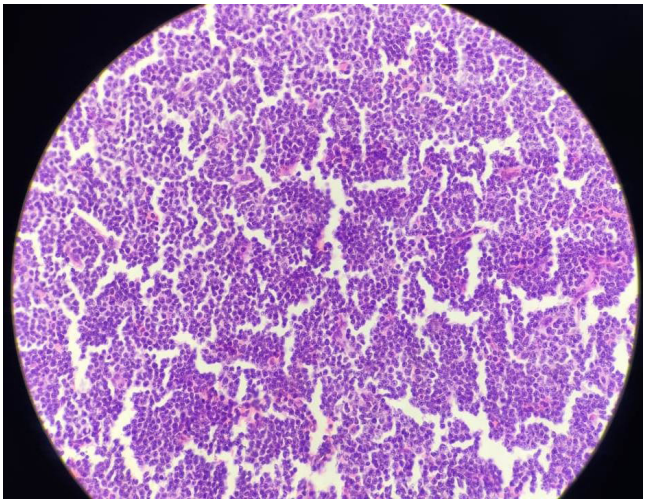


**Figure 3.** **H & E** stained section (40 X) shows presence of monomorphic population of diffuse lymphoid cells.

metastatic malignancy. Scan findings revealed a solitary lesion in right body of mandible which represented local involvement by neoplastic pathology. There was no evidence of distal skeletal metastases. Contrast enhanced CT findings were suggestive of an expansile destructive lesion involving the angle and the right ramus of mandible with associated large soft tissue component suggesting a malignant lesion (Figure 2).

Histopathogical examination (Figure 3) was suggestive of Non-Hodgkin's Lymphoma. Patient was referred to a higher center for treatment. Chemotheraphy and radiotheraphy was planned and the patient responded well to the treatment. There was regression in the size of the swelling after 11 months and the patient did not show signs of progression of the disease (Figure 1D).

## 3. Discussion

Lymphomas are the heterogeneous group of malignant diseases which arise from the mutation of lymphocyte progenitor cells. They may be indolent or highly aggressive neoplasms and are classified into Hodgkin's and non-Hodgkin's lymphoma. Non-Hodgkin's lymphoma is further subclassified into B- or T-cell types. Non-Hodgkin's lymphoma cases have been reported in extranodal sites, including the gastro-intestinal tract, Waldeyer's ring, bone, skin and brain accounting for 20-30% of the cases. Primary NHL is uncommon tumor of the oral cavity and may arise from the jaw bones or the soft tissue of the oral cavity accounting for 0.1 to 5%[1]. Very few case reports are available in the literature describing primary extranodal lymphomas in mandible.

The etiology of NHL is unknown, but the incidence of this malignancy is higher in immunodeficient conditions. Genetic, environmental and occupational influences contribute to the etiology, viruses such as Epstein-Barr virus and bacteria Helicobacter pylori have been suggested as a potential cause[2]. It is known to occur in autoimmune diseases, such as Sjogren's syndrome and rheumatoid arthritis; primary immunodeficiency syndromes like Wiskott-Aldrich syndrome, Chediak-Higashi syndrome, and Ataxia-telangiectasia (A-T) are also associated with an increased risk of developing lymphoma [2,3]. It is the second most common neoplasm in HIV patients and the risk of getting NHL is 60 times greater in HIV-positive patients[4]. Serological test for HIV disease was negative in our patient.

It commonly affects older adults, with a male to female ratio of approximately 3:2[5]. Most patients have localized disease; those with disseminated disease and HIV have poor prognosis[6]. Among the jaw lesions, the maxilla is more frequently involved and the mandible accounts for only 0.6% of the cases[7]. The presence of this lesion in mandible with bony involvement in our patient makes it noteworthy to report.

Oral lesions of NHL occur commonly in the gingiva, palate and buccal vestibule and rarely within bone. Patients often present with mobile teeth, swelling or ulcer, pain and paresthesia. Oral lesions of NHL may mimic a dental abscess, periodontal infection or benign reactive hyperplasia like peripheral giant cell granuloma or pyogenic granuloma[8]. It can also mimic more aggressive lesions like invasive fungal infection, syphilis, Wegener's granulomatosis, squamous cell carcinoma[9]. Such varied clinical presentation leads to delay in the diagnosis of this entity.

Primary lymphoma involving the bone is rare, representing only 5% of all extranodal lymphomas[10]. It presents as an ill-defined osteolytic lesion with widening of inferior alveolar canal, loss of lamina dura or widening of periodontal ligament. After histopathological diagnosis attempts should be made to assess the origin and spread of tumour.

## 4. Conclusion

A case of primary Non-Hodgkin's lymphoma of mandible with bone involvement is presented here with follow up. This is a rare entity and could not be easily differentiated from benign odontogenic lesions and may lead to misdiagnosis. Oral physicians should be cognizant that it may present as a non-tender growth/ swelling or ulceration and should be included in the differential diagnosis of swellings of the jaws. Biopsy, viral markers and advanced radiological techniques for metastatic lesions are indicated for a proper diagnosis.

## 5. References


1. Reddy I, Sreenath G, Reddy YR, Prakash AR, Swathi TR. Non-Hodgkin's lymphoma in buccal vestibule-case report. *J Clin Diagn Res*. 2014; 8(8):QD01202.
2. Inchingolo F, Tatullo M, Abenavoli FM et al. Non-Hodgkin lymphoma affecting the tongue: Unusual intra-oral location. *Head Neck Oncol*. 2011; 3(1):1–5. https://doi.org/10.1186/1758-3284-3-1. PMid:21205320. PMCid:PMC3022892
3. Varun R, Varghese NO, Sivakumar TT, Joseph AP. Extranodal non-hodgkin's lymphoma of the oral cavity: A case report. *Iran J Med Sci*. 2017; 42(4):407–11.
4. Nittayananta W, Chungpanich S, Pongpanich S, Mitarnun W. AIDS-related non-Hodgkin's lymphoma presenting as delayed healing of an extraction wound. *Br Dent J*. 1996; 181:102–4. https://doi.org/10.1038/sj.bdj.4809172. PMid:8810110
5. Kini R, Saha A, Naik V. Diffuse large B-cell lymphoma of mandible: A case report. *Med Oral Patol Oral Cir Bucal*. 2009; 14:e421–24.
6. Parrington SJ, Punnia-Moorthy A. Primary non-Hodgkin's lymphoma of the mandible presenting following tooth extraction. *BDJ*. 1999; 187:468–70. https://doi.org/10.1038/sj.bdj.4800308. PMid:10729980
7. Longo F, De Maria G, Esposito P, Califano L. Primary non-Hodgkin's lymphoma of the mandible: report of a case. *Int J Oral Maxillofac Surg*. 2004; 33:801–3. https://doi.org/10.1016/j.ijom.2003.12.003. PMid:15556331

8. Van der Waal RI, Huijgens PC, Van der Valk P, van der Waal I. Characteristics of 40 primary extranodal non-Hodgkin lymphomas of the oral cavity in perspective of the new WHO classification and the International Prognostic Index. *Int J Oral Maxillofac Surg*. 2005; 34:391–5. https://doi.org/10.1016/j.ijom.2004.08.009. PMid:16053848
9. Bhatt VR, Koirala B, Terjanian T. Extranodal natural killer/T cell lymphoma, nasal type presenting as a palatal perforation and naso-oral fistula. *BMJ Case Rep*. 2011. https://doi.org/10.1136/bcr.11.2010.3511. PMid:22707606. PMCid:PMC3063295
10. Toliusis, Pamerneckas A, Petrulis A, Tamulaitis G, Pilipavicius G, Pijadin A. Primary non-Hodgkin's lymphoma of bone. Medicina (Kaunas). 2004; 40(4):379–85.