

## Case Report

### Imaging features of a rare case of mandibular lymphoma.

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#### Abstract

The primary osseous non-Hodgkin lymphoma infrequently involves the mandible. Only few cases of non-Hodgkin's lymphomas (NHL) of mandible have been reported. Malignant lymphoma is classified into 2 types: non-Hodgkin lymphoma and Hodgkin lymphoma (HL). 20%-30% of NHLs are seen in extranodal sites. Waldeyer's ring is the most common site of NHL in head and neck, and other sites include orbit, paranasal sinus, oral cavity, salivary gland and thyroid. However, NHL involvement of the mandible is very rarely reported and there is no detailed evaluation of its imaging features.

The present case was of a 27 year old woman with exclusive mandibular involvement. Early detection of the lesion and differentiating it from other neoplastic or inflammatory lesions is important, as higher the clinical stage & histopathologic grade, poorer is the prognosis. In our case an ill-defined radiolucent lesion in mandible with associated pain is important feature of a malignant neoplasm including follicular lymphoma despite its rare presentation.

**Keywords:** Lymphoma, Mandibular lymphoma, Non-Hodgkin's lymphoma.

#### Introduction

A group of lymphoid system cancer is lymphoma. It is divided classically as Non-Hodgkin's lymphoma (NHL) and Hodgkin's lymphoma (HL).<sup>1-4</sup> The tumors can involve any age group; however, younger individuals are more commonly affected in HL and adults above 50 years are affected by NHL more frequently.<sup>5</sup> The most common subtype of NHL is diffuse large B-cell lymphoma (DLBCL).

Approximately 5% of NHL involves bones and 24% of NHL affect outside the lymphoid system (extra-nodal sites).<sup>6,7</sup> NHL account for 8% among the malignant tumors of mandible and about 0.6% of all NHL. Diagnosis of these tumors are frequently missed due to its low frequency, unspecific symptoms and radiographic features.<sup>8</sup>

#### Case History

A female patient aged 27 years came with a swelling in the left jaw one month post extraction of the third molar tooth. On extra-oral examination asymmetry in mandible angle region was detected. No obvious abnormalities noted on intraoral examination. No history of fever or any discharge.

#### Imaging Features

**On Orthopantomogram (OPG):** An ill-defined osteolytic lesion with sclerotic margin in the left side of mandible involving body, angle and ramus Figure: 1.

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Conflict of Interest: None

Financial Aid: Nil



**Figure 1:** An ill-defined osteolytic lesion in left side of the mandible involving body, angle and ramus.

**On Computed tomography (CT):** Permeative lytic expansile lesion in the left body, angle, ramus & condyle of mandible with periosteal reaction & large soft tissue component demonstrating homogenous enhancement on postcontrast imaging – features indicative of lymphoma in the left mandibular region Figure : 2 & 3.



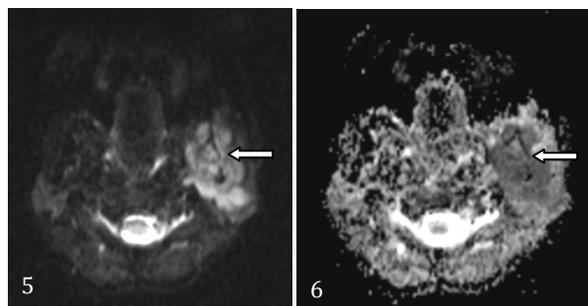
**Figure 2 & 3:** CT axial section- Expansile lytic lesion in left ramus of mandible with periosteal reaction & large soft tissue component demonstrating homogenous enhancement on postcontrast imaging.

**On Magnetic resonance imaging (MRI):** T2 & T2 FS show homogenous hyperintense lesion Figure: 4. DWI & ADC - Restricted diffusion Figure: 5 & 6.

**On Immunohistochemistry:** Follicular lymphoma 3A/3 was confirmed.



**Figure 4:** MRI T2 Fat suppressed axial section: Homogenous hyperintense lesion.



**Figure 5 & 6:** DWI & ADC: Showing restricted diffusion of the mandibular lesion.

### Discussion

Out of all cases of lymphomas, oral lymphomas account for 2.5%, and amongst them the involvement of soft tissues, cheeks, paranasal sinuses, and gingiva are the most affected sites.<sup>6,7</sup> Involvement of jaw bones is rare and it involves maxilla than mandible.<sup>3,6,7,9</sup> Primary NHL of the mandible represents 0.6% of all NHL, 5% of all bone NHL, and 8% of all mandibular tumors.<sup>6,10,11</sup> Men is more commonly affected than women and is seen more frequently in individuals of 60 years of age<sup>9,10</sup> however, the present case was noted in a 27 year old woman affecting the mandible exclusively.

Non- Hodgkin lymphoma can be misinterpreted as an odontogenic infection or non-lymphomatous odontogenic tumor resulting in delay of the diagnosis.<sup>3,4,5,6,7,11,12</sup> Localized bony growth, pain, dental mobility, pathological fracture and neurological disturbance are most common presentations.<sup>1,6,7,9,10,11</sup> In this current case, the patient had a history of tooth extraction one month prior to the diagnosis following which patient presented with pain over the left jaw associated with swelling as the chief complaint.

A unique subtype of NHL is Follicular non-Hodgkin lymphoma (NHL), which is indolent & incurable. It has high prevalence of residual mass post treatment, and it may lead to more aggressive NHL. Awareness of possible active residual mass, malignant transformation, indolent recurrence and its association with other primary cancers in patients treated for follicular lymphoma is necessary. Hence, imaging is essential in every step of management of follicular lymphoma patients.

To conclude, an ill-defined radiolucent lesion in mandible with associated pain is important feature of a malignant neoplasm including follicular lymphoma despite its rare presentation.

**References**

1. Bugshan A, Kassolis J, Basile J. Primary diffuse large B-cell lymphoma of the mandible: case report and review of the literature. *Case Rep Oncol* 2015;8(3):451-5.
2. Djevanmardi L, Oprean N, Alantar A, Bousetta K, Princ G. Malignant nonHodgkins's lymphoma (NHL) of the jaws: a review of 16 cases. *J Cranio-Maxillofac Surg* 2008;36(7):410-4.
3. Kini R, Sasha A, Naik V. Diffuse large B-cell lymphoma of mandible: a case report. *Med Oral Patol Oral Cir Bucal* 2009;14(9):421-4.
4. Kobler P, Borcic J, Filipovic Zore I, Nola M, Sertic D. Primary non-Hodgkin's lymphoma of the oral cavity. *Oral Oncol Extra* 2005;41(1):12-4.
5. Pazoki A, Jansisyanont P, Ord R. Primary non-Hodgkin's lymphoma of the jaws. *J Oral Maxillofac Surg* 2003;61(1):112 -7.
6. Adouani A, Bouguila J, Jebblaoui Y, Ben Aicha M, Abdelali MA, Hellali M et al. B-cell lymphoma of the mandible: a case report. *Clin Med Oncol* 2008;2:445-50.
7. Okahata R, Shimamoto H, Marutani K, Tomita S, Nakatani A, Kishino M et al. Diffuse large B-cell lymphoma of the mandible with periosteal reaction: a case report. *Oral Surg Oral Med Oral Pathol Oral Radiol* 2014;117(2):228-32.
8. Nayak PB, Desai D, Pandit S, Rai N. Centroblastic variant of diffuse large Bcell lymphoma: case report and review of literature. *J Oral Maxillofac Pathol* 2013;17(2):261-5.
9. Kolokotronis A, Konstantinou N, Christakis I, Papadimitriou P, Matiakis A, Zaraboukas T et al. Localized B-cell non-Hodgkin 's lymphoma of oral cavity and maxillofacial region: a clinical study. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2005;99(3):303-10.
10. 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(8):801-3.
11. Steinbacher DM, Dolan RW. Isolated non-Hodgkin's lymphoma of the mandible. *Oral Oncol Extra* 2006;42(5):187-9.
12. Müller AM, Ihorst G, Mertelsmann R, Engelhardt M. Epidemiology of nonHodgkin's lymphoma (NHL): trends, geographic distribution, and etiology. *Ann Hematol* 2005;84(1):1-12.