

# Non-Hodgkin lymphoma of maxilla penetrating the maxillary sinus – A case report

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## ABSTRACT

Introduction: Non-Hodgkin lymphoma is a type of neoplasm that affects the lymphoreticular system. Even though bone lesions are rare, it does affect the jaws and, more so, the maxilla than the mandible. Around 40% of NHL originate from the extranodal sites (1). Head and neck NHL is the second most common extranodal site after gastrointestinal tract (2).

Presentation of case: we present a case of a 58-year-old male patient with complaints of a continually growing mass in the upper left tooth region of a previously extracted tooth for two weeks. A CBCT scan was done which showed proliferation of a mass into the maxillary

sinus along with the presence of an oro-antral fistula and loss of palatal cortical plate. Histopathological evaluation revealed the NHL of the maxillary sinus.

Discussion: The second most common malignant pathology of the head and neck area after squamous cell carcinoma; Lymphoma, presents most commonly as a persistent swelling in the oral cavity. Other symptoms may include pain, paresthesia, foul smell, discoloration. Lytic changes may also be seen in the bone upon radiographic examination.

Conclusion: NHL of the paranasal sinus is a rare occurrence and tricky to diagnose, hence dentists need to be alert to not take any swelling or ulcerations of the oral cavity at their face value.

## **1. INTRODUCTION**

Lymphomas are various neoplasms emerging from the lymphoreticular system and can be of B-cell or T-cell variety (1). They are characterized by uncontrolled proliferation of lymphoid cells and affect the body's lymphatic tissues and other non-hemopoietic tissues (3,4). Lymphomas are further classified as Hodgkin or Non-Hodgkin lymphoma. While Hodgkin lymphoma (HL) typically affects the lymph nodes with little to no extranodal involvement, Non-Hodgkin lymphoma (NHL) on the other hand exhibits a higher percentage of extranodal involvement. (5)

For NHL the most common extranodal site is the waldeyer ring, in the head and neck region while the maxilla and palate are the most common site in the oral cavity. (6) The least affected sites in the oral cavity are gingiva, the mouth floor, paranasal sinuses, and glands. (7) A case of a 58-year-old male who reported to Manipal College of dental sciences, Mangalore with complaints of continually growing mass in the upper left tooth region of a previously extracted tooth for two weeks is reported here.

## **2. PRESENTATION OF CASE**

A 58-year-old male patient reported to Department of oral and maxillofacial surgery, Manipal College of Dental Sciences, Mangalore, Karnataka, India, in 2019 with complaints of a continually growing mass in the upper left tooth region of a previously extracted tooth for two weeks. History revealed tooth mobility in the left upper second premolar and uneventful extraction. Three days post-extraction, the patient noticed an ulcerative growth that grew and rapidly to its presenting size. (figure 1) A CBCT scan was done which showed proliferation of a mass into the maxillary sinus along with the presence of an oro-antral fistula and loss of palatal cortical plate. (figures 2,3 and 4)

Medical history revealed that the patient was previously diagnosed with NHL of upper cervical lymph node (NHL, follicular type) and got the biopsy done in 2009 which reported follicular lymphoma and was advised immunohistochemistry (IHC) for confirmation. The patient had then undergone chemotherapy. In 2017 left neck lymph node biopsy was done which revealed recurrence of the follicular lymphoma. IHC was done and the profile was consistent with follicular lymphoma with a diffuse and follicular pattern.

Upon extraoral examination, no palpable lymph nodes were present. Intraoral examination revealed a whitish-pink ulcero-proliferative lesion of 2×1.5 cm in size in the extracted upper

left 2nd premolar area. (figure 5) On palpation, it was noted that the lesion was tender but firm.

A provisional diagnosis of NHL was made based on the medical history and clinical picture. Oral squamous cell carcinoma was considered as the differential diagnosis.

Excisional biopsy was done under local anesthesia (LA). LA was injected as local infiltration, and the more significant palatine block was administered after betadine + saline mouth rinse. A circumferential incision was given with adequate margins, and the lesion was detached from its base. (figure 6) As the tissue was being excised, it was noticed that the proliferating tissue was emerging from the overlying maxillary sinus, and upon excision, oro-antral communication was seen.

Copious irrigation was done with saline and betadine, and wound edges were sutured using 3-0 silk. The excised tissue specimen was then sent for histopathological examination. The patient was recalled after 1 week for suture removal. Healing of the surgical site was adequate. (figure 7)

The section studied show fragments of tumor tissue composed of diffuse sheets of large atypical lymphoid cells. (figure 8) These cells had large nuclei, clump chromatin, and prominent nucleoli. Many interspersed mature lymphocytes were noted. Brisk mitosis with atypical forms and few multinucleated forms were seen. A diagnosis of Non-Hodgkin's lymphoma was given with suggested immunohistochemical studies to confirm subtype.

### 3. DISCUSSION

The second most common malignant pathology of the head and neck area after squamous cell carcinoma; Lymphoma, presents most commonly as a persistent swelling in the oral cavity. Other symptoms may include pain, paresthesia, foul smell, discoloration. (3) The patient may present with dental pain, tooth mobility, which is unexplainable. Lytic changes may also be seen in the bone upon radiographic examination. The most common clinical presentation is usually the nodal disease, but it may rarely occur at extranodal sites. Waldeyers rings are the most common extranodal site while paranasal sinuses, not so much. (5)

Oral lesions of NHL can affect the bone centrally or affect the soft tissues such as gingiva, palate, or buccal mucosa (8). Lymphoma of the paranasal sinuses is most commonly of the B-cell type. Due to its delayed diagnosis, mostly due to non-specific symptoms, the disease's prognosis is usually low. (7) Of the B-cell type lymphomas, the subtype diffuse large B-cell lymphoma ( DLBCL ) is the most common form. (9) since the patient was previously diagnosed with follicular lymphoma, the patient may have undergone a transformation to DLBCL, however, IHC markers would have been more conclusive. (10)

Histological features of DLBCL include the proliferation of large neoplastic B-cells with a nuclear size twice as large as the normal cells. Specific tumor markers such as CD3, CD45, CD56, and TIA1 are of important diagnostic value. Talking about diagnostic tools, CT remains the best and the most powerful tool to locate and define the lesion's boundaries. It may appear as a dental pathology such as apical or chronic periodontitis. Since these non-specific signs cannot alone point towards NHL, the mainstay to establish the diagnosis

remains the histopathological examination; hence, dentists need to be alert to not take any swelling or ulcerations of the oral cavity at their face value. (1,5).

Various combinations of chemotherapy, radiotherapy, and surgery can be used for managing NHL. Currently, the R-CHOP regimen for chemotherapy is widely used for the treatment of NHL with favorable results. Additionally, cases of the paranasal sinus increase the risk of CNS involvement, and hence CSF assessment ought to be included. (5)

#### **4. CONCLUSION**

To conclude, the case of NHL of the maxilla infiltrating the sinus can easily be misdiagnosed as a dental or periodontal pathology, hence early suspicion followed by radiographic examination and intervention in the form of incisional biopsy and histopathological examination is the mainstay in the management. Relevant referrals should be given for the efficient treatment of the disease.

#### **DECLARATION OF COMPETING INTEREST**

The authors declare that they have no conflicting interest

#### **ETHICAL APPROVAL**

N/A

#### **CONSENT**

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request

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FIG 1



FIG 2



FIG 3

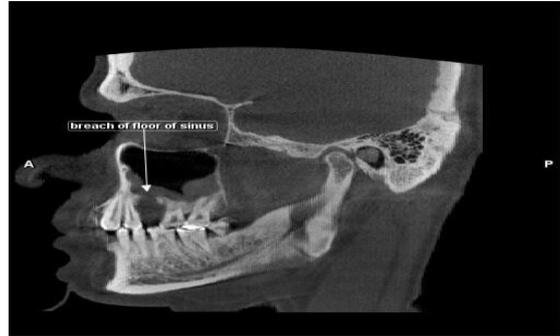


FIG 4

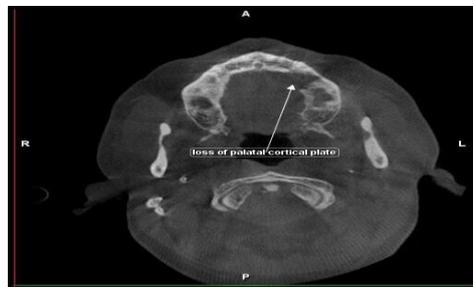


FIG 5



FIG 6



FIG 7



FIG 8

