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Case Report

Extranodal Non-Hodgkin's Lymphoma of the Oral Cavity: A Case Report

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Abstract

Lymphomas are solid malignant tumors having a wide spectrum of clinical and pathological features. Non-Hodgkin's lymphoma (NHL) is a subtype of lymphoma with two-thirds of the cases presenting as lymph node enlargement. The remaining one third of NHL cases has been reported in the extranodal sites, including the gastro intestinal tract, Waldeyer's ring, bone, skin, and brain. Intraoral non-Hodgkin's lymphoma is uncommon and may affect either the jaw bones or occur within the soft tissues of the oral cavity. Here we report a case of non-Hodgkin's lymphoma in a 65-year-old male patient who presented with a growth from the extraction socket. Non-Hodgkin's lymphoma presenting as a growth from the extraction socket is unusual. An orthopantamograph (OPG) was taken which revealed a diffuse radiolucent defect in relation to the extraction socket of the left lower molar region. Routine hemogram, urine analysis, and chest radiograph were normal. Incisional biopsy was performed and the tissue was subjected to histopathological examination. Histopathological and immunohistochemical analysis confirmed the diagnosis of B-cell lymphoma. The patient was referred to a regional cancer institute for further management, where chemotherapy was planned. However, prior to chemotherapy, the patient was diagnosed with brain metastasis and he expired in hospital within one month.

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Keywords ● Lymphoma ● Non-Hodgkin ● Extranodal ● Mouth

What's Known

- Non-Hodgkin's lymphoma is uncommon in the oral cavity.
- It affects either the soft tissue or the bone.

What's New

- Non-Hodgkin's lymphoma presenting as a growth from the extraction socket is extremely rare, especially in an immunocompetent patient.
- This case is unique as the patient was already treated for the lymphoma of cervical nodes 4 years previously and this was a secondary disease in the oral cavity.

Introduction

Lymphomas are the heterogeneous group of malignant diseases that range in behavior from relatively indolent to highly aggressive neoplasms. They arise from the mutation of lymphocyte progenitor cells and are classified into Hodgkin's and non-Hodgkin's lymphoma. Non-Hodgkin's lymphoma (NHL) occurs commonly in the lymph nodes with extranodal sites accounting for 20-30% of the cases.[1] Extranodal NHL is often noticed in the gastrointestinal tract, Waldeyer's ring, bone, and skin. Oral cavity is an uncommon site for non-Hodgkin's lymphoma with the incidence rate of 0.1 to 5%.[2]

Case Presentation

A 65-year-old male patient reported to the dental hospital with the complaint of a growth in the left lower back tooth region since five days. History revealed that he had a mobile tooth in relation to

tooth 38, which was extracted one week prior to admission. Two days after extraction, the patient noticed a small growth in the extraction socket that rapidly grew into its present size. Medical history revealed that he was diagnosed with non-Hodgkin's lymphoma (B-cell lymphoma, follicular type) of cervical lymph nodes in July 2011. He was treated with chemotherapy for the same and post-treatment follow-up for 4 years did not show recurrence. No palpable cervical lymph nodes were noticed on extraoral examination.

Intraoral examination showed an ulceroproliferative lesion in the extraction socket of 38-region, measuring approximately 3×2.5 cm in size (figure 1). The surface of the lesion was covered by yellowish-white pseudomembrane. The borders were indurated and the lesion was firm and tender on palpation. Based on the clinical findings and medical history, a provisional diagnosis of malignant lymphoproliferative lesion was made. Oral squamous cell carcinoma, soft tissue sarcoma, and metastatic tumor were considered in the differential diagnosis.

An orthopantamograph (OPG) was taken, which revealed a diffuse radiolucent defect in relation to the extraction socket of 38 (figure 2). Routine hemogram, urine analysis, and chest radiograph (figure 3) were normal. Serology for HIV was negative. The patient was referred to a general physician for systemic examination, which did not reveal any abnormality.

An incisional biopsy of the lesion was performed under local anesthesia and was subjected to routine histopathological examination. Hematoxylin and eosin stained sections showed round neoplastic cells arranged in sheets. The neoplastic cells had scanty cytoplasm with prominent hyperchromatic nuclei. In majority of the cells, the nuclei were pleomorphic with irregular chromatin (figure 4). The histopathological features were suggestive of malignant lymphoproliferative lesion. As the patient had a previous history of B-cell lymphoma, immunohistochemical analysis was done using antibodies against CD20, which showed a positive expression (figure 5). The immunohistochemical profile confirmed the clinical and histopathological diagnosis of

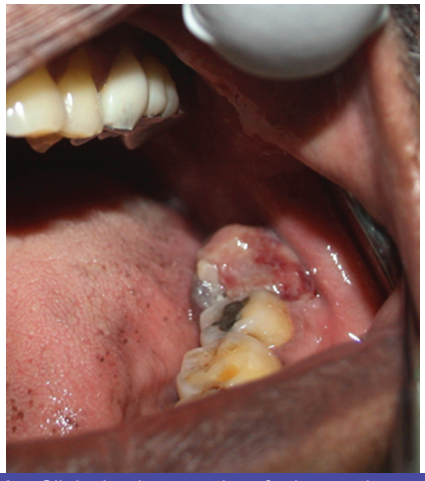

Figure 1: Clinical photograph of the patient showing ulceroproliferative growth from the extraction socket of 38-region.

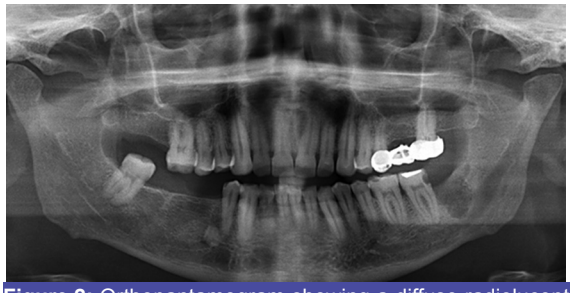

Figure 2: Orthopantamogram showing a diffuse radiolucent defect in relation to 38-region.

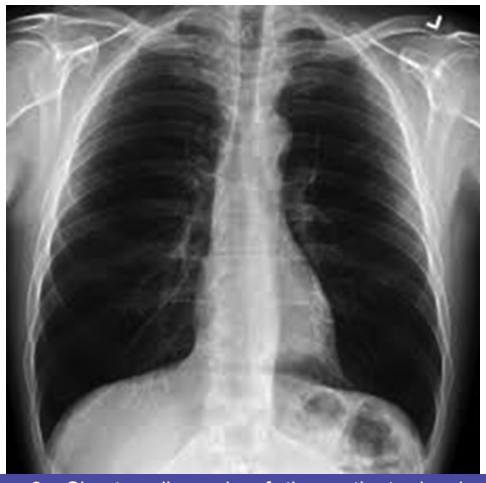

Figure 3: Chest radiograph of the patient showing no abnormality.

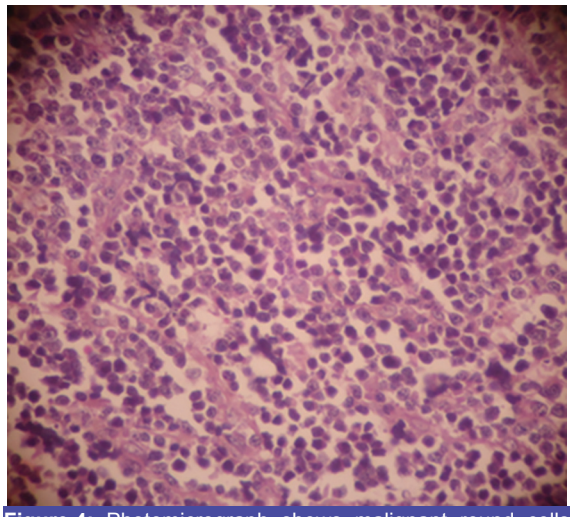

Figure 4: Photomicrograph shows malignant round cells arranged in sheets (H&E stain, 40×).

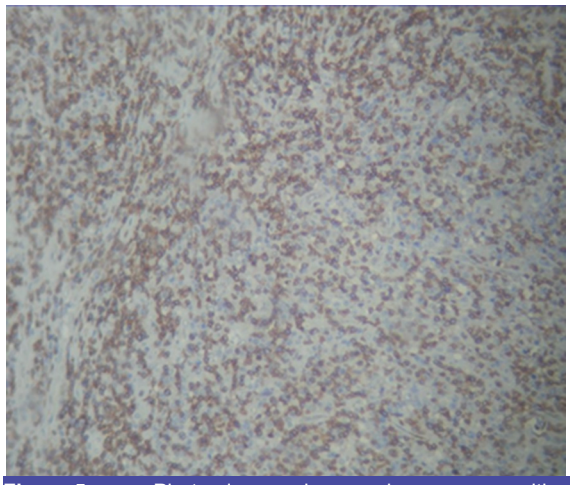

Figure 5: Photomicrograph shows positive immunohistochemical staining for CD20 antibody (40×).

non-Hodgkin's lymphoma (B-cell lymphoma). The patient had given his verbal and written informed consent to publish this case in scientific journals.

The patient was referred to a regional cancer institute for further management. A full body scan and bone marrow biopsy was performed. Bone marrow biopsy did not reveal any abnormality, whereas a lesion was noted in the brain suggestive of brain metastasis. A palliative chemotherapeutic regimen was planned for the patient. However, prior to chemotherapy, the patient developed complications and expired in the hospital.

Discussion

Non-Hodgkin's lymphomas (NHLs) are a group of diverse malignancies that usually involves lymph nodes. Extranodal NHL accounts for 20-30% of the reported cases. Extranodal NHL was first described as a distinct entity by Isaacson and Wright in 1983. The head and neck are the second most common sites for extranodal NHL, following the gastrointestinal tract. NHL in the oral cavity accounts for 0.1 to 5% of the cases.[2]

NHL most commonly affects older adults. Van der Waal et al. reviewed 40 cases of primary extranodal NHL of the oral cavity and reported the mean age of occurrence as 59 years. Shah et al. reported that the mean age of patients with oral NHL was 42.6 years. A slight male predominance has been noted in many published reports.[3]

Oral lesions of NHL can manifest centrally within the bone or can occur in the soft tissues, most commonly the gingiva, palate, or the buccal vestibule. Patients often present with signs and symptoms such as tooth mobility, localized swelling with ulcer, unexplained dental pain, or ill-defined lytic osseous changes. Oral lesions mimic a dental abscess, periodontal infection, or benign reactive hyperplasia.[3] NHL presenting as a growth from the extraction socket is rare and has been previously reported in both HIV positive and negative patients.[4,5] Our case is unique as the patient presented with the intraoral lesion four years after the treatment of primary lesion in the cervical lymph nodes.

The etiology of NHL is unknown, but the incidence of this malignancy is higher in immunodeficient conditions. B-cell lymphoma in immunodeficient patients is Epstein-Barr virus (EBV) positive when compared to sporadic type. Primary immunodeficiency syndromes like Wiskott-Aldrich syndrome, Chediak-Higashi syndrome, and Ataxia-telangiectasia (A-T) are associated with an increased risk of developing lymphoma. NHL is the second most common neoplasm in HIV patients affecting 4% to 10% of the individuals with HIV disease. The risk of getting NHL is 60 times greater in HIV-positive patients than in otherwise healthy persons.[4,6] Serological test for HIV disease was negative in our patient.

The majority of the oropharyngeal NHL are B-cell type rather than T-cell type. Yin et al. reported that 79% of the cases are B-cell lymphomas, while the remaining cases belong to T-cell or NK-cell variety.[7] According to Hicks et al., the most common histotype in the head and neck region of immunocompetent patients is large B-cell lymphoma, whereas, plasmablastic lymphoma is the most common type in immunocompromised patients.[8] The histological subtype in our patient was B-cell lymphoma.

Chemotherapy, radiotherapy, or both are used for treating head and neck NHL. The standard chemotherapeutic regimen is a combination of cyclophosphamide, hydroxydoxorubicin, oncovin and prednisone (CHOP therapy). Maheshwari et al. administered 6 cycles of cyclophosphamide, vincristine and prednisolone (CVP) regimen followed by radiation (50 Gy, 25 fractions, 5 weeks) in and noticed 19 months disease free period.[9] Van der Waal et al. used radiotherapy (28-40 Gy, 2-4 weeks) for stage I cases and a combination of radiation and chemotherapy for higher stages. The drug used for indolent cases was chlorambucil with or without prednisolone, while for aggressive cases CHOP regimen was given. They reported a mean survival time of 38 months with zero mortality rates.[3] Gustavsson et al. reviewed 13,305 patients with NHL from 64 previous studies and suggested a combination of chemotherapy and radiation for aggressive head and neck NHL.[10]

Monoclonal antibodies directed against CD20 antigen (rituximab) in combination with CHOP therapy in adults showed improved initial response and decrease in remissions. Similar approaches are being explored in childhood B-cell lymphomas. Antibodies to CD30 antigen and small molecule inhibitors like ALK inhibitors are currently in early phase of clinical trials.[1]

Prognosis of NHL depends on the extent of the disease, staging, histopathological subtype, and presence or absence of HIV disease. Hermans et al. reviewed 755 cases of NHL and suggested 5-year survival rates of 59%, 34%, 14% and 10% for stages I, II, III and IV, respectively.[11] The prognosis depends on the histological subtype of NHL. For example, among the B-cell lymphomas, Burkitt's lymphoma and diffuse large B-cell lymphoma have an aggressive clinical course, whereas follicular lymphoma and small lymphocytic lymphoma have an indolent course. Among the T-cell lymphomas, anaplastic T-cell lymphoma shows an aggressive behavior while mycosis fungoides have an indolent behavior. NHL in HIV patients has a poor prognosis due to rapid progression of the lesion and also due to increased incidence of opportunistic infection. The median survival time for HIV positive patients was 9 months, while that of immunocompetent patients was 34 months.[12]

The main strength of our approach towards the diagnosis of this case is that we were persistent to get all his prior medical records from the hospital where the patient was treated previously. Due to this reason, we were aware that the patient already had a history of non-Hodgkin's lymphoma and hence, we included lymphoma as one of our differential diagnosis. However, as our institution is primarily a dental college, we were equipped to perform a full body scan or bone marrow biopsy. Hence, the patient had to be referred to a regional cancer institute for further management.

Conclusion

Although non-Hodgkin's lymphoma is uncommon in the oral cavity, it should always be considered in the differential diagnosis of intraoral malignant diseases. In most instances, the dentists may be the first one to identify intraoral NHL. Even though dentists do not treat lymphomas, early identification and prompt referral to oncologist would result in timely management of the patient.

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Conflict of Interest: None declared.

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