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DIFFUSE LARGE B CELL LYMPHOMA- A CASE REPORT AND REVIEW OF LITERATURE.

Oral Pathology

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ABSTRACT

Diffuse large B-cell lymphoma (DLBCL) is the most frequently diagnosed type of Non -Hodgkin's lymphoma (NHL) in the human body and is most frequent type of NHL of oral cavity. It is an aggressive, rapidly growing neoplasm of large lymphoid cells. In the oral cavity, the majority of cases occur in the Waldeyer's ring, followed by the buccal mucosa, tongue, floor of the mouth, and retromolar area. The representative symptoms in the oral cavity include nonspecific swelling, dental extraction wounds that do not heal, ulceration, and aposteme, and DLBCL may be misdiagnosed as osteomyelitis, periodontosis, and pyogenic granuloma, as well as malignant tumors such as squamous cell carcinoma. Here, we present a case of a 55-year-old female patient who developed DLBCL in oral cavity.

KEYWORDS

Diffuse Large B-cell Lymphoma, Non -Hodgkin's Lymphoma, Extranodal Lymphomas, CHOP regimen (cyclophosphamide, Hydroxydoxorubicin, Oncovin And Prednisone).

INTRODUCTION:

Lymphomas are malignant neoplasm of the lymphocyte cell lines that are broadly classified as Hodgkin's lymphoma (HL) and non-Hodgkin's lymphoma (NHL) due to their biological, histological and immunophenotypical differences and clinical behaviour patterns.[1] Although lymphomas of the oral cavity and maxillofacial region are rare pathological entities, it is important to describe the complete manifestation of their natural history in order to provide knowledge of their development. Lymphoma is the second most common malignant neoplasm in head and neck, after epithelial malignant tumors in the oral cavity and maxillofacial region.[2]

Extranodal NHL in the oral cavity is considered to be pretty uncommon. Diffuse large B-cell lymphoma (DLBCL) is the most common variant of non-Hodgkin's intermediate-grade lymphomas, and affect mainly lymph nodes and the lymphatic organs, but they also frequently involve extranodal sites[3]. Waldeyer's ring is mainly second to the gastrointestinal tract in the incidence of extranodal NHL, but primary lymphomas of the oral cavity are uncommon. The oral cavity, including the palate, gingiva, tongue, buccal mucosa, floor of the mouth, and lips is the primary site of approximately 2% of all extranodal lymphomas[1]

This article reports a case of DLBCL in the left upper back tooth region in a 55-year-old female patient.

CASE REPORT:

A female patient aged 55-year-old reported to our department with a chief complaint of pain and swelling in the left side of face since one and half months. It was gradual in onset and extended on the entire left side of face. She came to Dental college and was given antibiotics as there were many decayed teeth on that side. But swelling did not subside.

Extraoral examination revealed asymmetrical face (Fig.1). Intra orally, a firm to boggy swelling extending from 23 to 28 region buccally and palatally with vestibular obliteration. Surface is smooth with ulcer ative notch over the palatal region (Fig 2). There was no bleeding or any discharge. CBCT showed periapical rarefaction noted with ill-defined infiltrative borders with effacement of buccal cortical plates.

An incisional biopsy was advised under local anesthesia. On histopathological examination, hematoxylin and eosin (H&E) stained tissue section composed of a tissue lined by squamous epithelium with underlying infiltrate of medium sized atypical lymphoid cells with scanty cytoplasm and round nucleus with fine chromatin and multiple small nucleoli and admixed with abundant cell debris (Fig 3).

Based on these features, Large cell lymphoma was suspected and further investigation was carried out. Immunohistochemistry showed pancytokeratin negative ruling out epithelial origin, CD20 and CD10 showed positivity, BCL-2, BCL-6 positivity, Tdt negative, MIB and C MYC focal positivity and proliferation index with Ki-67 positive. (Figs 4-9)

DISCUSSION:

Lymphomas are of two major categories: Hodgkin's lymphoma (HL) and NHL, disparity between these two can only be recognized under the microscope. Hodgkin's lymphomas are characterized by the presence of Reed–Sternberg cells which are multinucleated giant cells. Whereas other neoplasms of lymphoid system are referred to as Non-Hodgkin's lymphoma (NHL) which are derived from B-lymphocytes predominantly[3]. NHL consists of a group of abnormal proliferation of two distinct lymphocyte types, B or T lymphocytes, and their precursor cells. The etiology of this disease is still uncertain, and the main risk factors include immunodeficiency, autoimmune diseases, infections, exposure to noxious chemical agents, chemotherapy, and radiation [4]. In the head and neck region, NHL has been observed in the Waldeyer's ring, oral mucosa, salivary glands, paranasal sinuses, laryngeal tissue, and osseous structures. In the lymphomas of oral region, the prevalent site is tonsil followed by parotid, tongue, palate, gum and lip. Oral involvement frequently is part of widespread disease and may also involve the head and neck region. The maxilla is more frequently involved than mandible[5]. The most common type of NHL of oral

cavity is DLBCL. These lesions are symptomatic and presents as rapidly enlarging mass. Swelling of the jaw (58%), pain (55%), and mental dysesthesias or numbness (20%) are the most common presentations in the rare cases published in the literature. Less frequent complaints include loosening of the teeth, poor dentition or persistent swelling and pain following dental extraction. The radiologic features of this rare entity include dysfunction of bone, bone destruction or sclerosis, resorption of roots of teeth, destruction of buccal cortex, or pathological fractures[6]. DLBCL typically presents as an aggressive lymphoma, evolving over months and resulting in symptomatic disease that would imminently be fatal without treatment.[7]. It may occur at all ages, but the median patient age is about 60 years. There is slight male predominance. DLBCL has marked biological heterogeneity and highly variable clinical course. In the past, DLBCL was subclassified based on cytomorphologic features into centroblastic, immunoblastic and anaplastic. Centroblasts are medium to large in size with oval-to-round nuclei and fine vesicular chromatin patterns having two to four nucleoli opposed toward the nuclear membrane, which can predominate in extranodal disease. The tumor can be monomorphic or polymorphic with admixed immunoblasts. Immunoblasts display a uniform cytology, and almost all cells exhibit prominent central nucleoli with distinct rims of basophilic cytoplasm. In the anaplastic variant, the tumor cells are variably large cells with bizarre pleomorphic nuclei. They may mimic Reed–Sternberg cells or undifferentiated carcinoma.[7] DLBCL can also be further subdivided by gene expression profiles, being center B cell-like, activated B cell-like, or type 3 gene expressing profile.[8] Each type has a different clinical outcome, genetic alterations, and underlying oncogenic mechanisms. Most maxillary lymph gland tumors are highly malignant diffuse large cell lymph gland tumors. However, due to the limited number of cases, they are currently not classified.

Recent molecular studies evidenced that chromosomal abnormalities play an important role in the pathogenesis of the disease and its subclassification is important to guide the treatment. The current treatment of DLBCL usually begins with multi-agent chemotherapy; typically, CHOP regimen (cyclophosphamide, hydroxydoxorubicin, oncovin and prednisone) which involve three cycles. Early stage disease requires either chemotherapy alone or a combination of chemotherapy and radiotherapy, but bone marrow transplantation considered if remission is not maintained. The role of surgery is markedly limited in the treatment of DLBCL. Newer treatment includes the use of proteasome inhibitors which targets NF-κβ pathways which is required by B-cell type DLBCL, small molecule inhibitors of signal transduction pathways and agents like lenalidomide, which modulate the cytokines and tumor microenvironment. Even the same line of treatment is followed for DLBCL associated with chronic inflammation. The prognosis of NHLs depends on clinical staging, where Stage I have a better prognosis than those in Stages II to IV, with 5-year overall survival rates ranging from 26% to 73%.[9]

CONCLUSION:

With the increased reports of extranodal lymphomas in the orofacial region, it has become imperative not to take any swellings of the orofacial region at face value but to properly examine its pathology and treat it judiciously. It is very essential for the clinician to be aware of this type of aggressive lesion, so that an early diagnosis can be made and thereby improve the life expectancy of these patients. The diagnosis of these lesions is challenging due to their nonspecific nature of presenting symptoms, so proper clinical evaluation, histology as well as IHC evaluation of biopsy specimen may aid in early and proper diagnosis and effective management.

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CONFLICTS OF INTEREST

There are no conflicts of interest.

Fig.1: Extraoral swelling

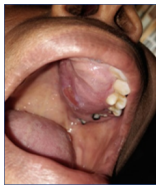

Fig.2: Intraoral swelling

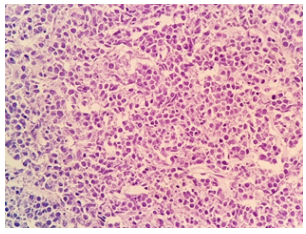

Fig.3: Histopathological features showing sheets of atypical lymphoid cells with scanty cytoplasm

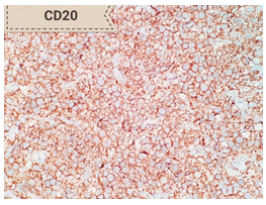

Fig.4: Immunohistochemistry showing cells are positive for CD 20.

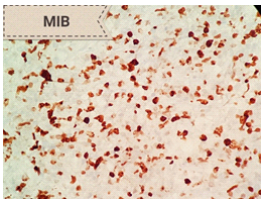

Fig.5: Immunohistochemistry showing cells are focal positivity for MIB

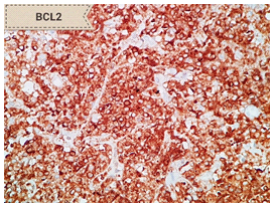

Fig.6: Immunohistochemistry showing cells are positivity for BCL2.

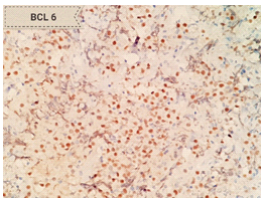

Fig.7: Immunohistochemistry showing cells are focal positivity for BCL 6.

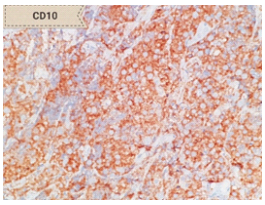

Fig.8: Immunohistochemistry showing cells are positive for CD 10

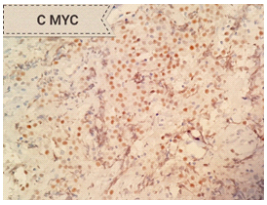

Fig.9: Immunohistochemistry showing cells are focal positivity for C MYC.

REFERENCES

1. Kobler P, Borcic J, Zore IF, Nola M, Sertic D. Primary non-Hodgkin's lymphoma of the oral cavity. Oral Oncol Extra. 2005;41(1):12–4.
2. Guevara-Canales JO, Morales-Vadillo R, de Faria PEA, Sacsaquispe-Contreras SJ, Leite FPP, Chaves MGAM. Systematic review of lymphoma in oral cavity and maxillofacial region. Acta Odontol Latinoam. 2011;24(3):245–50.
3. Puneeth HK, Kumar SR, Ananthaneni A, Jakkula AN. Physical torment: A predisposition for diffuse B-cell lymphoma. Journal of Oral and Maxillofacial Pathology: JOMFP. 2019 Feb;23(Suppl 1):17.
4. Nair R, Arora N, Mallath MK. Epidemiology of Non-Hodgkin's Lymphoma in India. Oncol. 2016;91(1):18–25.
5. Kumar MS, Gannepalli A, Chandragiri A, Amarnath K. Diffuse large B-cell lymphoma of maxilla – A case report of late relapse. J Clin Diagnostic Res. 2016;10(4):ZC94–9.
6. Kalogeraki A, Tamiolakis D, Ligoxygkakis I, Sinatkas V, Papadakis M, Stathopoulos EN. Extra-nodal primary diffuse large B-cell lymphoma of the maxilla. Fine needle aspiration cytology. Stomatologija. 2013;15(2):58–60.
7. Narang RS, Manchanda AS, Kaur H. Evaluation of a case of diffuse large B-cell lymphoma. Journal of Oral and Maxillofacial Pathology: JOMFP. 2019 Feb;23(Suppl 1):7.
8. Rosenwald A, Wright G, Chan WC, Connors JM, Campo E, Fisher RI, Gascoyne RD, Muller-Hermelink HK, Smeland EB, Giltnane JM, Hurt EM. The use of molecular profiling to predict survival after chemotherapy for diffuse large-B-cell lymphoma. New England Journal.
9. Puneeth HK, Kumar SR, Ananthaneni A, Jakkula AN. Physical torment: A predisposition for diffuse B-cell lymphoma. Journal of Oral and Maxillofacial Pathology: JOMFP. 2019 Feb;23(Suppl 1):17.