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(CASE REPORT)

Primary non-Hodgkin lymphoma of the palatine tonsil: Case report and review of the literature

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Abstract

Primary non-Hodgkin lymphoma of the palatine tonsil is a rare but important form of extranodal lymphoma, with diffuse large B-cell lymphoma (DLBCL) being the most common subtype. We present a case of a 44-year-old male diagnosed with localized DLBCL of the left tonsil, confirmed through biopsy and treated with chemotherapy. Early diagnosis is challenging due to nonspecific symptoms such as tonsillar enlargement and cervical lymphadenopathy. Treatment typically involves chemotherapy, with radiotherapy used for localized or low-grade cases. Aggressive disease may require higher radiation doses. Early detection and personalized treatment plans are key to achieving favorable outcomes.

Keywords: Palatine tonsil lymphoma; Non-Hodgkin lymphoma; Extranodal lymphoma; Malignant hemopathy; Oral cavity disease

1. Introduction

Non-Hodgkin lymphoma (NHL) represents malignant proliferations of lymphoid tissue. These lymphomas account for 5% of all malignant tumors in the head and neck, and they predominantly arise from extranodal lymphoid tissue [1,2]. Approximately one-third of non-Hodgkin lymphomas (NHL) are diagnosed at extranodal sites [3].

Non-Hodgkin's lymphoma (NHL) affecting the Waldeyer's ring is considered a rare clinical condition, representing about 10% of all NHL cases and over a third of extranodal occurrences. Within this category, the palatine tonsils are most commonly involved. Approximately 13% of primary extranodal NHLs affect the oral cavity and oropharynx, with nearly 70% of these cases localized to the tonsils [4,5].

Non-Hodgkin lymphomas (NHL) are categorized based on modern immunophenotyping, with the predominant subtype at this site being B-cell lymphomas. Diffuse large B-cell lymphoma (DLBCL), the most prevalent high-grade NHL, accounts for up to 80% in some studies. [6].

Early detection is crucial for effective management, as treatment primarily involves chemotherapy and radiotherapy, which are essential for achieving optimal therapeutic outcomes [5]. Here, we present a case of localized primary extranodal NHL - diffuse large B-cell lymphoma (DLBCL) of the left tonsil in a 44-year-old patient.

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2. Case report

A 44-year-old male presented to the emergency department with complaints of a progressively enlarging palatine mass over three months. The swelling was associated with mild dysphagia but no significant weight loss, night sweats, or fever. The patient had no notable medical history or known comorbidities.

On examination, there was unilateral tumefaction of the left palatine tonsil with an ulcerated surface approximately 4 x 5 cm in size. Ipsilateral cervical lymphadenopathy was observed, with the lymph node measuring approximately 2 x 3 cm, mobile, and non-tender (Figure1).

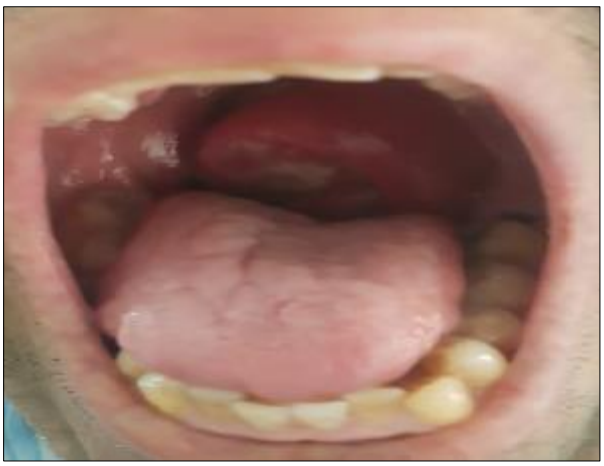

Figure 1 Clinical Picture Showing Left Tonsillar Tumefaction

A contrast-enhanced computed tomography (CT) scan of the neck revealed a soft tissue mass lesion in the left tonsillar fossa measuring 41 x 51 x 30 mm, along with left cervical lymphadenopathy measuring 23 x 36 mm. The lesion was classified as T3 N2a (Figure 2).

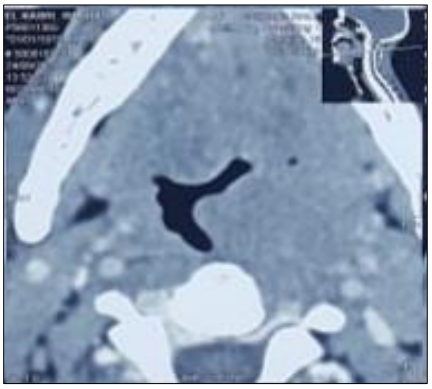

Figure 2 Axial section cervical CT scan: lesion of the left palatine tonsil

A biopsy of the tonsillar mass was performed, and histopathological examination, along with immunohistochemistry (IHC), confirmed the diagnosis of diffuse large B-cell lymphoma (DLBCL) of germinal center subtype. Immunohistochemistry demonstrated that the tumor cells were positive for CD20, CD45, BCL2, and BCL6, with a Ki-67 proliferation index of 80%. The cells tested negative for CD3, p63, CD10, c-MYC, MUM1, CD30, and ALK (Figure 3).

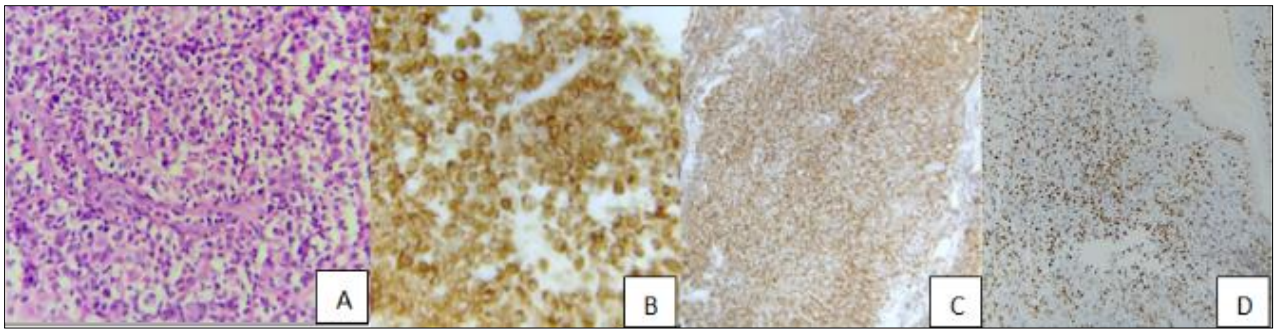

Figure 3 Showing Histopathology as DLBCL, A) H and E stain, B) IHC – Bcl2 Positive and C) IHC – CD20 Positive, D) IHC – Ki-67 proliferation index of 80%

A staging evaluation was conducted, yielding normal results. Based on these findings, the patient was diagnosed with primary extranodal B-cell lymphoma of the left tonsil, classified as localized diffuse large B-cell lymphoma (DLBCL), stage T3 N2a.

The patient was treated with the CHOP chemotherapy regimen (Cyclophosphamide, Doxorubicin, Vincristine, and Prednisone). He tolerated the treatment well and showed a positive response to the chemotherapy and he is currently under regular follow-up.

3. Discussion

Most non-Hodgkin lymphomas arise from lymph nodes, but extranodal involvement occurs in 24–48% of cases. Among extranodal sites, the Waldeyer's ring, particularly the palatine tonsil, is the most frequently affected [7]. NHLs of the palatine tonsils rank second after carcinomas among malignant tumors of this region, with a frequency of 5–14% [6].

Primary tonsillar NHL most commonly affects patients in their 60s, with a male predominance [7]. The clinical manifestations are often nonspecific and can include asymmetric tonsillar enlargement, difficulty or pain while swallowing, cervical lymphadenopathy, sore throat, or snoring. Systemic symptoms such as fever, weight loss, and night sweats are rare, occurring in approximately 25% of cases. Typically, primary tonsillar NHL presents with unilateral tonsillar involvement and ipsilateral cervical lymphadenopathy in about two-thirds of patients. Bilateral tonsillar involvement is seen in only around 10% of cases [5-8].

Imaging alone cannot definitively diagnose tonsillar lymphoma, however, it is useful for assessing tumor size and detecting non-palpable lymph nodes, particularly in the retro-pharyngeal area. A biopsy remains essential to confirm the diagnosis, with histological analysis, immunohistochemical staining for B-cell or T-cell identification, and the detection of specific markers. Most tonsillar lymphomas are B-cell type, with diffuse large B-cell lymphoma (DLBCL) being the most common. Staging involves imaging techniques like PET scans and MRIs, as well as routine tests, such as blood counts and bone marrow biopsies, for a comprehensive evaluation [9,10].

The treatment strategy for primary tonsillar lymphoma primarily involves chemotherapy, with the first-line treatment typically consisting of the CHOP regimen (Cyclophosphamide, Doxorubicin, Vincristine, and Prednisone), which is highly effective for aggressive forms of lymphoma [6,11]. This regimen is often combined with rituximab in cases of diffuse large B-cell lymphoma (DLBCL) to improve outcomes [12]. In localized cases with minimal disease or low-grade lymphoma, radiation therapy (RT) alone may be sufficient, with doses typically ranging from 30-36 Gy for patients who achieve a complete response. For advanced or refractory disease, higher radiation doses (40-45 Gy) may be required to ensure adequate local disease control, in conjunction with intensified chemotherapy regimens[5,13,14]. Personalized treatment approaches are increasingly employed to tailor treatment plans based on the patient's response, overall health, and the extent of the disease at diagnosis.

4. Conclusion

Primary malignant non-Hodgkin lymphoma of the palatine tonsil is rare, with diffuse large B-cell lymphoma being the most common subtype. Early diagnosis is challenging and requires biopsy. For aggressive cases, the standard treatment involves chemotherapy followed by radiation therapy, while radiation alone may suffice for low-grade or localized disease. Treatment decisions should be based on a confirmed diagnosis and thorough staging.

Compliance with ethical standards

Disclosure of conflict of interest

Authors declare no conflict of interest.

Statement of ethical approval

The present research work does not contain any studies performed on animals/humans subjects by any of the authors.

Statement of informed consent

The patient has given their informed consent for publishing the photos.

Authors' contributions

All authors have read and agreed to the final version of this manuscript.

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