Treatment of Non-Hodgkin Lymphoma Arising De Novo in Unilateral Tonsil
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Abstract
The tonsil is one of the most frequent sites of involvement of non-Hodgkin lymphoma in the head and neck. Chemotherapy combined with radiation therapy (RT) is considered the standard treatment for limited-stage diffuse large B-cell lymphoma. However, in longterm follow-up studies involving the use of rituximab plus cyclophosphamide, doxorubicin, vincristine, and prednisone (R-CHOP), the role of RT requires clarification. Our purpose is to present a case of unilateral tonsillar lymphoma successfully treated with R-CHOP chemotherapy alone. A 77 year old woman presented with a mass in the right palatine tonsil. No peripheral lymphadenopathy was detected. High fludeoxyglucose uptake was noted in the right palatine tonsil (SUVmax: 13.8) on positron emission tomography. The histological examination of tonsillar biopsy confirmed the diagnosis of non-Hodgkin lymphoma Germinal center B-cell-like (GCB) diffuse Large B-cell Lymphoma (DLBCL). She was staged as IA according to the Ann Arbor staging system with low risk international prognostic index (IPI). Treatment with 6 cycles of R-CHOP chemotherapy led to obtain a metabolic complete remission after 3 cycles. During follow-up, she remains disease-free exceeding one year.

Keywords: tonsillar lymphoma, chemotherapy, metabolic complete remission.

INTRODUCTION
Lymphoma is the second most common malignant tumour of the head and neck. 90% of lymphomas in this region arise in nodes [1, 2] non-Hodgkin lymphoma (NHL) accounts for only 5% of head and neck tumours and is frequently found in the extranodal lymphatic sites of Waldeyer's ring or in extranodal extralymphatic sites such as the sinuses, salivary glands, thyroid and orbits. The tonsil is one of the most frequent sites of involvement of NHL in the head and neck [3, 4]. Lymphomatous involvement of the tonsil may be diagnosed during clinical or radiological staging for NHL elsewhere, or it may be the primary site of tumour.

Chemotherapy combined with radiation therapy (RT) is considered the standard treatment for limited-stage diffuse large B-cell lymphoma (DLBCL) [5]. However, in longterm follow-up studies involving the use of rituximab plus cyclophosphamide, doxorubicin, vincristine, and prednisone (R-CHOP), the role of RT requires clarification [6-8].

Here, we report a rare case of DLBCL of the right tonsil successfully treated with R-CHOP (Rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone) chemotherapy alone, with complete metabolic response and progression-free survival exceeding one year.

CASE REPORT
A 77 year old woman without relevant medical history, presented with odynophagia (dysphagia), swelling and pain in the right palatine tonsil for the past 2 months. Weight loss, night sweats and fever were absent.

Local examination revealed an approximately 4 × 3 cm smooth non tender mass in the right palatine tonsil (figure 1). No peripheral lymphadenopathy was detected. Systematic examination including respiratory, cardiac, abdominal and central nervous system was normal.
The results of laboratory analyses obtained on admission were as follows: white cell count: 5828/ul; hemoglobin: 15.02 g/dl; platelet count: 233000/ul; lactate dehydrogenase: 202 u/l; blood urea nitrogen: 0.24 g/l; creatinine: 6.14 mg/l; aspartate aminotransferase: 22 IU/l; alanine aminotransferase: 20 IU/l.

Computer tomography scan revealed a non enhancing right tonsillar mass measuring 34*22.7 mm, but no signs of neck lymphadenopathy. High fludeoxyglucose uptake was noted in the right palatine tonsil (SUVmax: 13.8) on positron emission tomography. A tonsillar biopsy was performed, the histological examination confirmed the diagnosis of non-Hodgkin lymphoma Germinal center B-cell-like (GCB) DLBCL. She was staged as IB according to the Ann Arbor staging system with low risk international prognostic index (IPI).

Treatment with R-CHOP chemotherapy led to obtain a clinical complete response (figure 2) and a metabolic complete remission after 3 cycles (figure 3), a total of 6 cycles was administered. During follow-up, she remains disease-free exceeding one year.

**DISCUSSION**

NHL of the oral cavity and oropharynx account for 13% of all primary extranodal NHL with approximately 70% of these occurring in the tonsils. The palatine tonsil is the most frequently involved site followed by palate, gingiva and tongue [9, 2]. Most lymphomas found in the palatine tonsils are the B-cell type, and of these, DLBCL represents most of the cases, reaching as much as 80% in some of the groups studied [9, 10].

Chemotherapy combined with RT is considered the standard treatment for primary DLBCL of the tonsil; Laskar et al. [9] demonstrated that disease free survival (DFS) and overall survival (OS) rates are higher in patients treated with chemotherapy combined with RT than in those treated with chemotherapy alone. Mohammadianpanah et al. [11] also reported a significantly better DFS rate by using a combined treatment involving chemotherapy and RT.

It has been documented that R-CHOP improves DFS and OS without significant toxic effects [12]. Thus, R-CHOP chemotherapy has been established as the standard treatment for aggressive NHL. However, to the best of our knowledge, there have been no reports on the role of RT in R-CHOP chemotherapy for tonsillar lymphoma.
Our case report suggests that chemotherapy alone may be an effective treatment of primary tonsillary lymphoma in the era of rituximab.

**CONCLUSION**

Chemotherapy consisting of R-CHOP regimen may lead to a satisfactory outcome in patients with this uncommon neoplasm, which tends to present at an early stage and to have a favorable prognosis.

**REFERENCES**

