SAS Journal of Medicine
Abbreviated Key Title: SAS J Med
ISSN 2454-5112
Journal homepage: https://saspublishers.com

OPEN ACCESS

Surgery

Non-Hodgkin's Lymphoma of the Palatine Tonsil

Ameziane Hassani Mariam[1*], Anouar Ben Ameur El Youbi[1], Abdellatif Oudidi[1], Benmanssour Najib[1], Ridal Mohammed[1], Mohamed Noureddine El Alami El Amine[1], Nawal Hammas[2]

[1]Department of Otolaryngology and Cervicofacial Surgery; Hassan II University Hospital Fes, Morocco
[2]Anatomopathology Laboratory, Hassan II University Hospital Center – Fes, Morocco

DOI: 10.36347/sasjm.2024.v10i06.017 | **Received:** 02.04.2024 | **Accepted:** 09.05.2024 | **Published:** 25.06.2024

***Corresponding author:** Ameziane Hassani Mariam
Department of Otolaryngology and Cervicofacial Surgery; Hassan II University Hospital Fes, Morocco

Abstract **Original Research Article**

Lymphoma is the second most common malignant tumor of the head and neck after squamous cell carcinoma. Involvement of the tonsils is relatively rare. Non-Hodgkin's lymphoma is the most frequent histological type. Unilateral tonsillar hypertrophy is the most common manifestation. Histopathology confirms the diagnosis. Our study includes thirteen cases of tonsillar lymphoma over a seven-year period, from January 2017 to December 2023. Cervical lymphadenopathy was present at the time of diagnosis in 62% of cases. Distant metastases were present in 69% of cases. The chemotherapy protocol used in our series was R-CHOP. A complete remission was observed in 62% of cases over a five-year follow-up period. Tonsillar lymphoma is an aggressive tumor, and tonsillar biopsy or tonsillectomy should be performed urgently in cases of suspected malignancy.

Keywords: Unilateral hypertrophy, chemotherapy.

INTRODUCTION

The Waldeyer's ring is a circular band of lymphoid tissue formed by the nasopharynx, palatine tonsils, adenoids, lingual tonsils, and the base of the tongue. Lymphoma of the Waldeyer's ring is a relatively rare entity, with the palatine tonsil being the most frequent site. It is most commonly a non-Hodgkin's lymphoma. Unilateral tonsillar hypertrophy is the most common manifestation. Histopathology confirms the diagnosis. Chemotherapy is the curative treatment.

METHODS

This is a retrospective descriptive study conducted in the Department of Otolaryngology and Head and Neck Surgery at Hassan II University Hospital in Fes. The study spanned a period of 7 years from January 2017 to December 2023. A sample of 13 cases was collected. Included in our study were all patients, regardless of age or sex, presenting with non-Hodgkin's lymphoma of the palatine tonsil with complete medical records. Cases with inconclusive histopathological examination and unusable medical records were excluded. Data were collected using a data collection form and analyzed, leading to the results presented in the following chapter.

RESULTS

Our series comprises thirteen cases of tonsillar lymphoma, with the average age of our patients being 56 years. The male-to-female ratio is 1.4. Clinically, all patients presented with unilateral tonsillar hypertrophy accompanied by dysphagia. Cervical lymphadenopathy was present at the time of diagnosis in 62% of cases. Only 46% of patients presented with general symptoms such as anorexia, fever, and general malaise. Extension assessment revealed pulmonary metastases in 30% of cases. Hepatic and splenic involvement was present in 69% of cases. Tonsillectomy was performed in 85% of cases, while the remaining cases underwent biopsy due to tumor extension. Histopathological examination confirmed non-Hodgkin's lymphoma in all patients in our series. The chemotherapy protocol used in our series was R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisolone). Radiotherapy was associated in 35% of cases. Over a five-year follow-up period, complete remission was observed in eight patients (62%), partial remission in four patients (34%), and there was one death (4%) in our series.

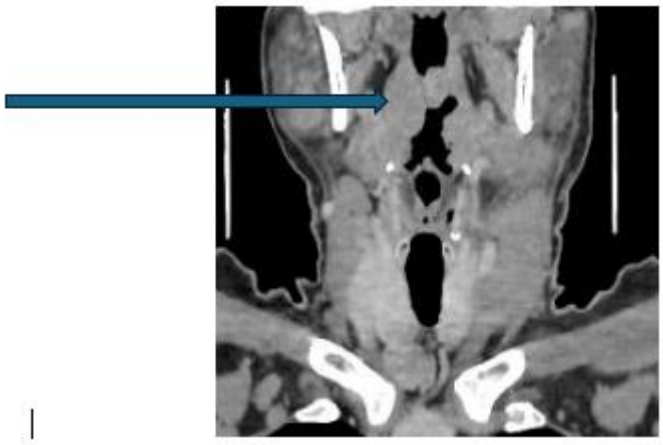

Figure 1: Coronal CT of a right palatine tonsil tumor

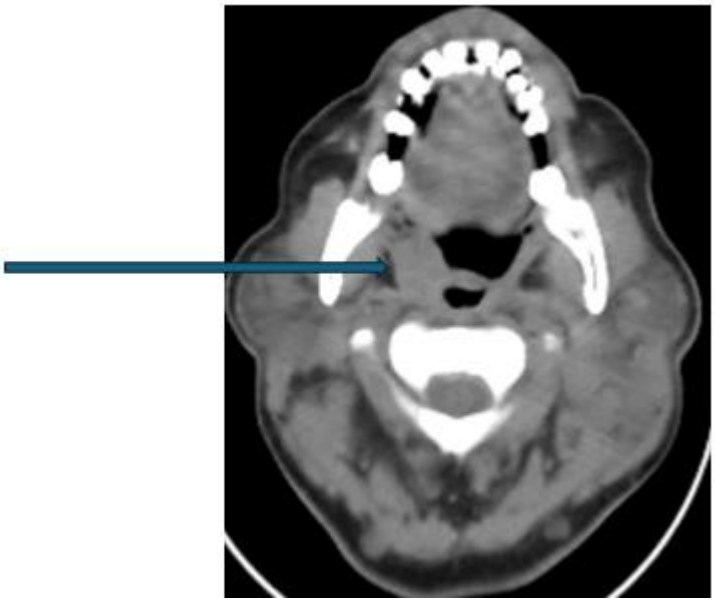

Figure 2: Axial CT of a right palatine tonsil tumor

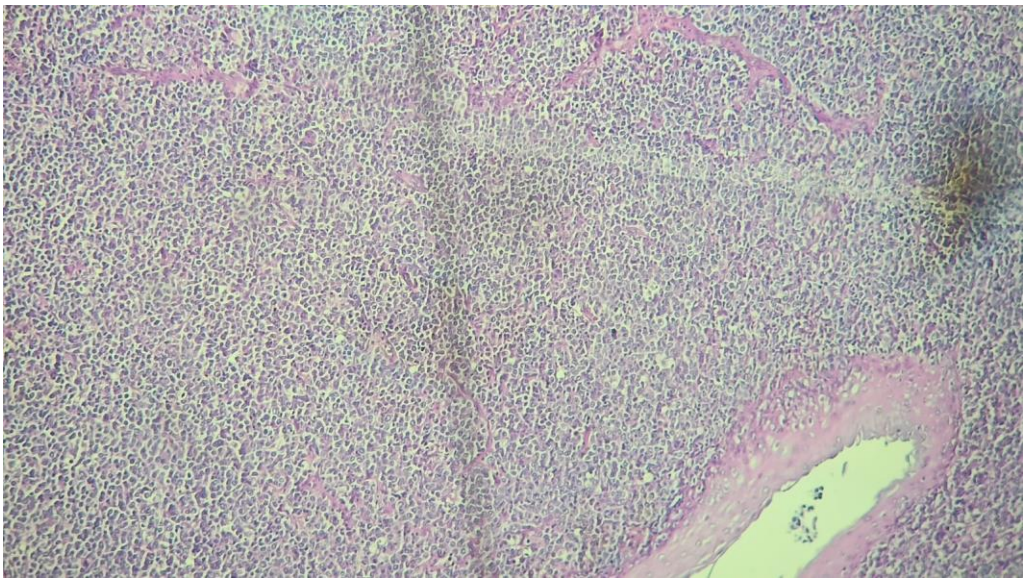

Figure 3: Lymphoma B diffuse large cell: tumor proliferation composed of large lymphocytes (HESx100)

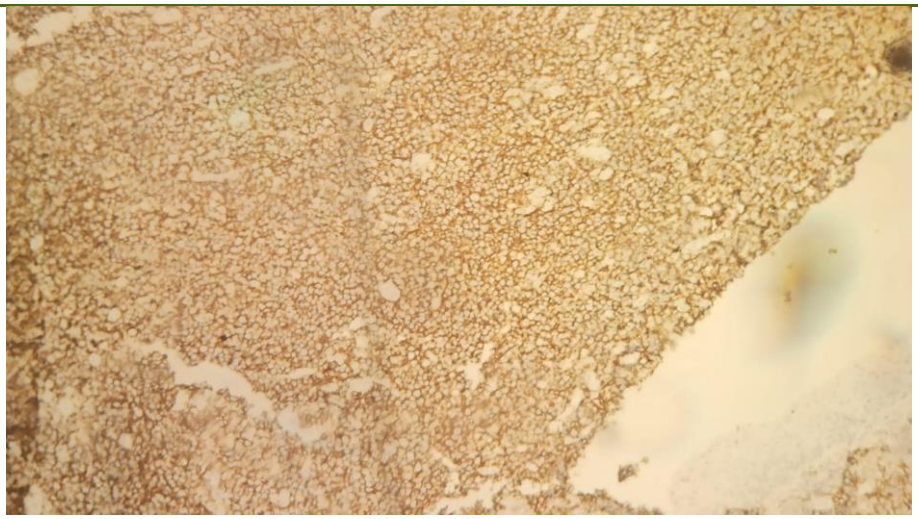

Figure 4: Diffuse large B-cell lymphoma: Immunohistochemical study showing diffuse expression of CD20

DISCUSSION

Lymphoma is the second most common malignant tumor of the head and neck after squamous cell carcinoma. Involvement of the tonsils is relatively rare. Non-Hodgkin's lymphoma is the most frequent histological type. It most often consists of non-Hodgkin's lymphoma of B-cell origin, or diffuse large B-cell lymphoma [1-3].

Clinical signs are nonspecific and may lead to a delay in diagnosis. They mainly manifest as a sensation of fullness in the throat, dysphagia, odynophagia, otalgia, asymmetric tonsillar hypertrophy, changes in mucosal appearance (ulcerations or color changes), and cervical lymphadenopathy. General symptoms such as fever, weight loss, and night sweats are rare and may develop at an advanced stage of the disease [2-4]. In rare cases, it can be asymptomatic [3, 4].

Imaging plays an important role in assessing tumor extension. Cervical ultrasound is essential for characterizing lateral cervical lymphadenopathy [5, 6]. Computed tomography is crucial for determining tumor stage [5, 6]. The role of PET/CT in diagnosis in cases of suspected malignancy is not yet established. It may be indicated in lymphomas with low suspicion of malignancy to prevent unnecessary surgeries. It is particularly useful for assessing treatment response after six to eight weeks of chemotherapy [5, 6].

The diagnosis is confirmed by histopathological examination. Immunohistochemical studies are essential for determining the specific cell type and establishing the classification of the lymphoma. Generally, the biopsy should sample the entire tonsil [7, 8]. However, in some patients, the presence of an extensive lesion can alter surgical landmarks, making it difficult to perform a complete tonsillectomy. In these cases, it is crucial to obtain an extensive sample, as it can be difficult to distinguish lymphoma from poorly differentiated carcinoma [6-8].

The main differential diagnosis of tonsillar lymphoma is squamous cell carcinoma of the tonsil, although rarely it may represent a site of metastatic spread. However, other benign conditions, much more common, can cause unilateral tonsillar hypertrophy. These include repeated viral or bacterial infections, tuberculosis, inflammatory conditions such as sarcoidosis [5, 8], or simply differences in the depth of the tonsillar fossa due to asymmetry of the pillars [4, 5].

Given the multitude of differential diagnoses and the high frequency of benign lesions, managing unilateral tonsillar hypertrophy presents a challenge. Performing a tonsillectomy is essential to confirm the diagnosis of malignancy. However, unnecessary surgery poses risks of hemorrhage and anesthesia complications (some authors advocate for biopsy). Indeed, in cases of strong suspicion of malignancy (clear unilateral enlargement, suspicious lymphadenopathy, longstanding asymmetry, and obvious mucosal changes), tonsillectomy should be performed urgently to rule out malignant tumor pathology. Patients with low suspicion of malignancy should undergo further evaluation, including cervical ultrasound to search for suspicious lymphadenopathy or a CT/PET scan, which has a positive predictive value of 61% and a negative predictive value of 100% [5, 8, 9].

Chemotherapy is the main curative treatment, with the most commonly used protocols being CHOP (cyclophosphamide, doxorubicin, vincristine, prednisone) or R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisolone). Radiochemotherapy combination allows for good local control [9, 10].

There are multiple unfavorable prognostic factors: age over 60 years, volume greater than 5 cm3, high LDH levels, β2 microglobulin levels exceeding 3 mg/L, chromosomal abnormalities involving

chromosomes 6, 7, and 17, and associated HIV infection [9-11].

The five-year survival rate for non-Hodgkin's lymphomas localized to the palatine tonsil is 86% [12].

CONCLUSION

Tonsillar lymphomas are rare tumors, mainly manifesting as unilateral tonsillar hypertrophy. Imaging helps evaluate tumor extension. Positive diagnosis is confirmed by histopathological examination. Treatment is based on chemotherapy.

Competing interests: The authors declare no competing interests.

Authors' Contributions:

MAH described the case, conducted literature research, and drafted the initial version of the manuscript. ABE revised the manuscript and made substantial contributions. AO and MNEE reviewed the case description and conducted simultaneous literature research. All authors read and approved the final manuscript. NH was involved in the histopathological study.

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