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Mandibular Non Hodgkin Lymphoma:Case Report And Literature Review

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Abstract : *NHL of bone is rare, representing only 5% of all extranodal lymphomas. The diagnosis of NHL of the mandible is frequently delayed or erroneously diagnosed as dental disease.Our case is a 40 -year-old male presented with a right mandibular process , The mass was biopsied and was found to be diffuse large B-cell lymphoma. The patient was referred for chemotherapy. Treatment depends on several factors, including the histological subtype, site, and size of the tumor. Treatment typically involves a combination of chemotherapy, radiotherapy, and surgery in various combinations.*

Introduction :

Lymphomas are a heterogeneous group of disorders resulting due to malignant neoplastic changes in the lymphoid tissues. Lymphomas arise from stem cells B, T or histiocytic cells (Paul 1988). Broadly the lymphomas are divided into:

Hodgkin Lymphoma (HL) and Non-Hodgkin Lymphoma (NHL)

They are the second most common tumors in the head and neck region (Hermani 1994). Both HL and NHL present as lymph node enlargement. The pathological hallmark of Hodgkin's Lymphoma is Reed-Sternberg cell. NHL is five times more frequent than HL in head and neck region (Kraut 1998). The incidence of lymphomas varies in different regions of the world. HL is commonest type in Jamaica followed by British and American countries whereas reticulum cell sarcoma exceeded all others types by a great majority in Japan (Anderson et al 1970).

Case report:

We present the case of a 40-year-old patient, with no particular history, who has been presenting with a right mandibular mass for about 2 and a half years. (Fig 1)

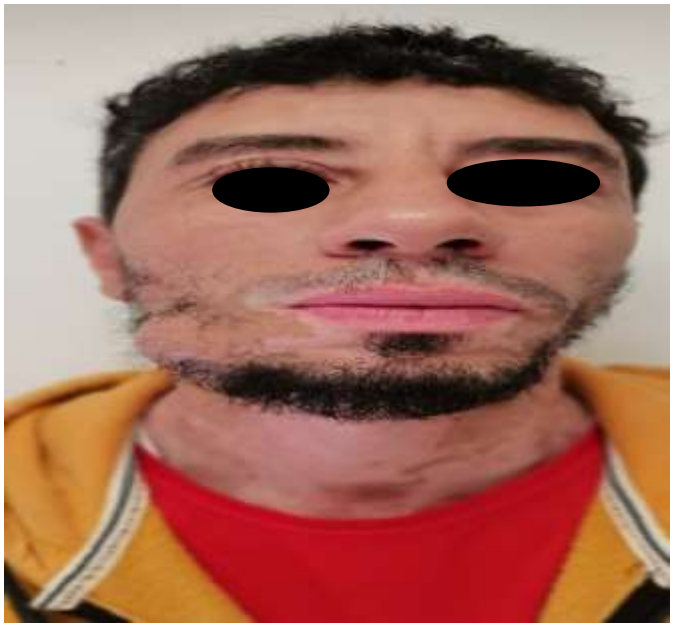

Fig 1: Right mandibular mass

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Physical examination revealed a bone-like mass, approximately 4 cm in diameter, mobile in relation to the superficial plane, painless, with vestibular expression and no lingual version. (Fig 2 et 3)

Fig 2-3: Endobuccal expression of the mass

A biopsy was performed with immune-histochemical study returning in favor of a diffuse large B-cell lymphoma of the non-germinative center type .

The patient underwent a CT scan of the facial massif, which showed a right peri-mandibular mass with a periosteal reaction, without invasion of the structures in the histological data. (Fig 4 and 5).

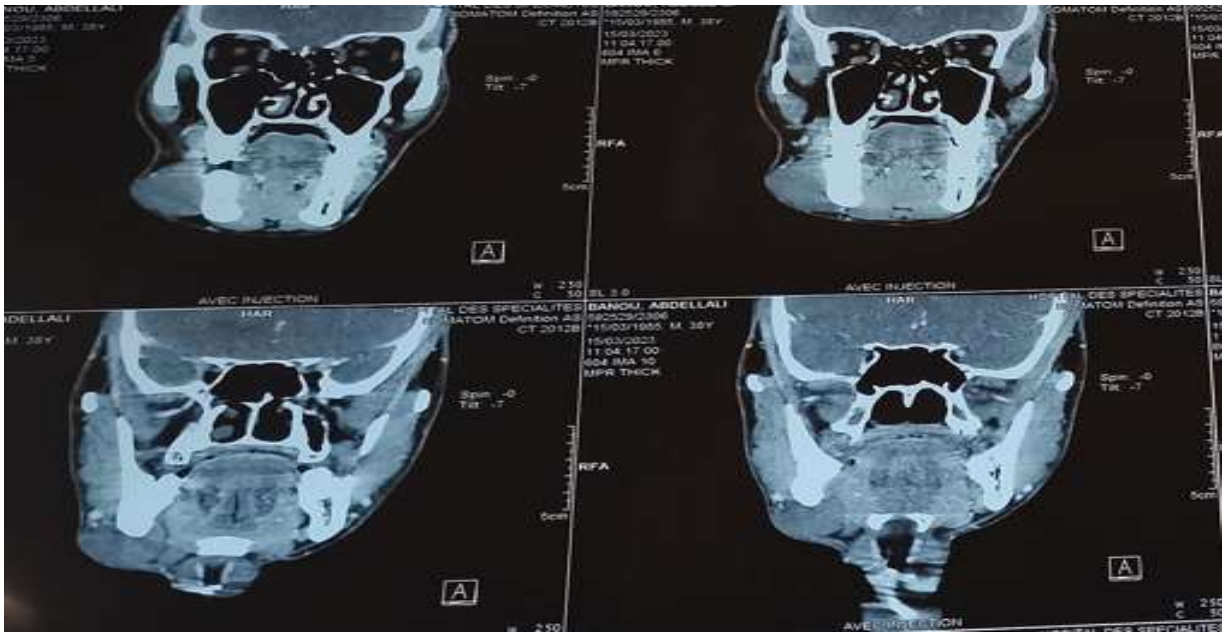

Figure 4: Coronal parenchymal window sections showing the right mandibular process.

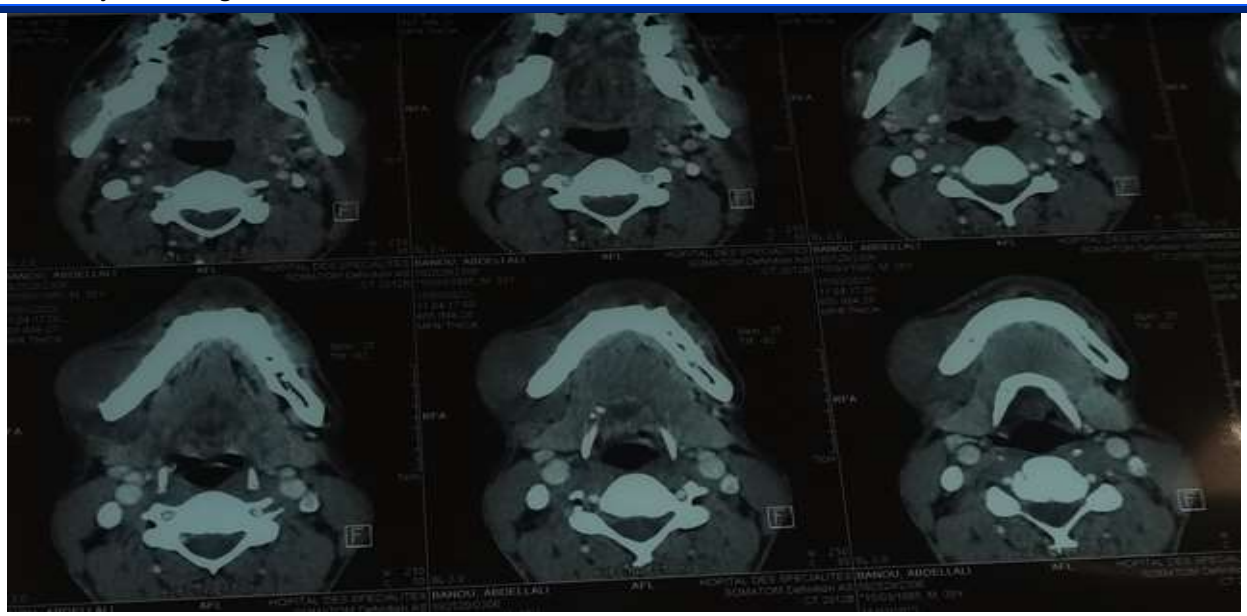

Figure 5: Axial sections with parenchymal windows showing the right mandibular process.

A pet-scan was performed showing a right mandibular hypermetabolic tumor process, with no other suspicious pathological hypermetabolism.The patient was subsequently referred to internal medicine for chemotherapy.

Progression after one year was marked by significant regression of the right mandibular mass.

Discussion:

Lymphomas are a group of neoplasms originating from the lymphoreticular system, mainly the lymph nodes, characterized by abnormal proliferation of B and T lymphoid cells or their precursors. It is a malignant tumor that represents, after squamous cell carcinoma, the second most common cancer in the head and neck region, with a percentage of 2.6% [1].

Lymphomas are classified into two groups: Hodgkin lymphomas (HL) and non-Hodgkin lymphomas (NHL). The difference between the two types is anatomopathological. HL is characterized by the presence of Reed-Sternberg cells, while the absence of these cells and the presence of other neoplastic lymphoid cells are necessary for the diagnosis of NHL [2].

Generally, lymphomas develop in the lymph nodes, but can involve extranodal sites such as the thymus, spleen, liver, gastrointestinal tract, and oral cavity [1]. Male patients over 40 years old are most affected by this disease [3, 4].

Up to 40% of NHL cases occur in an extra nodal site. Oral involvement is extremely rare, representing only 2-3% of these extra nodal cases. In its oral form, NHL can affect the bone tissue or soft tissues. The most common sites within the oral cavity are the soft palate, tonsils, and accessory salivary glands. Other locations such as the gum and periapex are very rare. In our case, the location was mandibular [2, 5, 6].

There are several histological subtypes of NHL. Some studies have shown a predominance of the large B-cell subtype for oral forms, accounting for 50% to 68% of all oral NHL cases [4, 7, 9, 10]. **This was the case with our patient.**

NHL is characterized by localized growth, but a delay in diagnosis can promote its spread. The etiology of NHL is not yet clear [11]. Several causes have been reported in the literature, including irradiation, long-term immunosuppression (including autoimmune diseases and rheumatoid arthritis), systemic lupus erythematosus, Sjögren's syndrome, and certain infections such as Epstein-Barr virus (EBV), human T-cell lymphotropic virus 1 (HTLV-1), HIV, Helicobacter pylori, Chlamydia, and human herpesvirus 8 (HHV-8, KSHV) [12, 13].HIV-infected patients are at higher risk of developing NHL, with aggressive B-cell lymphoma being one of the most commonly observed variants in these individuals [12].

Clinically, oral lesions may appear as erythematous areas, painless swellings often associated with surface ulceration secondary to trauma, or dental mobility [7, 12]. If the site is mandibular, paresthesia may be observed [10].

The radiological appearance is nonspecific, with the lesion often associated with bone lysis whose extent depends on the stage of diagnosis [3, 4]. Maxillary involvement may be associated with sinus invasion. Mandibular involvement, on the other hand, may be associated with enlargement of the inferior alveolar canal or the mental foramen if the disease affects these sites [10].

The lack of clinical and radiological specificity of this disease can lead to confusion with benign lesions, including periodontal disease, pericoronitis, and periodontal abscess [10]. The confirmation of the diagnosis is based on histopathology, which relies on two criteria: the absence of Reed-Sternberg cells and the presence of more or less differentiated neoplastic lymphoid cells. These are giant lymphoid cells with large vesicular nuclei, prominent nucleoli, and abundant basophilic cytoplasm. Histopathology also allows determining the subtype of the disease based on the nature of these cells [3, 4, 11, 13, 14].

Treatment depends on several factors, including the histological subtype [3, 8, 1], site, and size of the tumor. Treatment typically involves a combination of chemotherapy, radiotherapy, and surgery in various combinations. Standard treatment includes a combination of chemotherapy with cyclophosphamide, methotrexate, doxorubicin, vincristine, cytarabine arabinoside, and prednisone [8]. Adjuvant radiotherapy, usually delivered at a level of 40-50 Gy [10], is particularly useful in histopathological variants suggesting aggressive behavior [7]. Surgery combined with radiotherapy is indicated for localized non-aggressive forms [15].

Prognosis depends on several factors, including the stage of diagnosis, the type of the disease, and the patient's condition. However, recurrence is possible even several years after remission [8, 11].

Conclusion:

Mandibular non-Hodgkin´s lymphomas are rare but they should be included in the differential diagnosis of other jaw lesions. Treatment for primary lymphoma of the mandible typically consists of a combination of chemotherapy and radiotherapy.

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