Bilateral mental nerve neuropathy as the sole presenting symptom of Burkitt’s Lymphoma

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Abstract
There are several pathologies that may cause alteration of the lower lip sensation, therefore a differential diagnosis is needed. Among these pathologies, we have focused on intrabone growing tumours such as Burkitt’s Lymphoma. Burkitt’s Lymphoma is a malignant tumour of B-Cell lymphocyte origin, classified as a Non-Hodgkin’s Lymphoma. Three clinical subtypes are described: endemic, sporadic and HIV associated. It is characterized by very fast growing, undifferentiated lymphocytes and bone marrow infiltration. A high incidence of Burkitt’s Lymphoma has been reported in African children. It is known to have a good response to radiotherapy and chemotherapy treatment. This report describes the case of a 29 year-old Spanish man diagnosed with Burkitt’s Lymphoma, in which his first and only symptom was bilateral anaesthesia of the lower lip. We have also described the clinical evolution, steps for diagnosis and treatment.

Key words: Burkitt’s lymphoma, inferior alveolar nerve anaesthesia, mental nerve neuropathy, numb chin syndrome.
Introduction
Lymphomas are malignant tumours involving cells of the lymphoreticular or immune system. Burkitt’s Lymphoma belong to the group of Non-Hodgkin Lymphomas and it’s characterized by a very high and diffuse proliferation of undifferentiated cells of B lymphoid origin (1).
Metastatic alteration by tumours in the mandible is uncommon. Metastasis from breast, lung and prostate are the most frequent. Burkitt’s Lymphoma, especially the endemic variant can also spread into the mandiblele (2,3). If the mandible marrow is affected, alteration of the inferior alveolar nerve could be the first symptom alerting the presence of this tumour.

Case Report
A 29 years old Spanish man with a month history of sensitive alteration of the lower lip is described. Physical examination revealed a complete anaesthesia involving both left and right lower lip. No other alterations were found, even through neurological examination. Panoramic X-Ray didn’t show any abnormal signs.
Fifteen days later, the patient came back referring functional alteration of the lower right limb, sensitive alteration in the inner side of the left thigh and sphincter alteration within a Cauda Equina Syndrome. He also presented bilateral submaxillary and cervical lymph nodes.
Blood chemistry analysis showed the existence of leukocytosis stood out:10% of blast cells, 20000 platelets, GOT 114 Ui/l, and 4154 b-microglobulin.
Facial MRI (Fig.1) showed hypointense signal on T1 and hyperintense on T2 at marrow level of the left mandibular angle and joint. These findings are compatible with an infiltration of mandibular bone marrow.
Medullar Histological examination (Fig.2) showed a typical “Starry Sky” appearance. An infiltrate of neoplastic lymphoid cells characterized by basophilic cytoplasm and nucleus with immature cromatine.
Immunohistochemical staining was positive for CD 20, CD 19, CD 22, CD 10, and showed high labelling indices (more than 85%) of nuclear staining for Ki-67.
Three years after the beginning of the symptoms, the patient is free of disease after treatment with radiotherapy and chemotherapy.

Discussion
Burkitt’s lymphoma was described in 1958. It is characterized by a monoclonal proliferation of non cleaved cells of B cell-origin (1). Its potential growth fraction of nearly 100 % makes it perhaps the most rapidly dividing tumour known (4).
Three clinical variants of Burkitt’s Lymphoma have been described: Endemic, non endemic, and human immunodeficiency virus associated (5).

The differences between the endemic and the non endemic variants lie on their clinical manifestations. The endemic variant affects younger African children, presents higher involvement of the mandible and expression of the Epstein-Barr virus genome in more than 90% of cases. As for the sporadic variant, the expression of this virus is less than 10%, is more frequent among older children and involvement of the mandible is very rare.

Histological examination is characterized in all these variants by scattered macrophages throughout the field of malignant lymphocites, creating the classic “starry-sky appearance” (6).

In the head and neck, the most usual is the involvement of the lymph nodes but the extranodal variant is also possible. Involvement of other structures, such as the tongue, nasopharynx, orbit, maxilla, mandible and mastoid, as well as involvement of different cranial pairs has been described (7, 8).

Despite the fact that our patient did not present any alteration in the mouth, several signs associated to Burkitt’s lymphoma with oral involvement were described: Hyperplastic gingivae, swelling of the jaw, mobile teeth and premature eruption of permanent molars (8, 9).

Mental nerve neuropathy or “Numb Chin Syndrome” consists in an alteration of the inferior lip and mental sensibility in relation with different pathologies. (Table 1) Unilateral side of the inferior lip is affected in the majority of cases. However, bilateral alteration is very rare and there are only a few cases described in the English literature (10).

It is not unusual that a Burkitt’s lymphoma affects the sensation of the perilabial area, specially when the mandible is also involved. Actually, several cases of unilateral paresthesia of the lower lip caused by involvement of the mental nerve as the initial manifestation have already been described (11). However, this is the first case of a Burkitt’s Lymphoma presenting with bilateral anaesthesia of lower lip as sole symptom described in medical literature.

The fast clinical evolution of the illness is remarkable: in the described case, in just fifteen days, it evolved from local involvement of the lip to general neurological involvement.

The treatment plan consist in chemotherapy and radiotherapy (12) and the early diagnosis and treatment are imperative for a favorable prognosis.

References

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