原文題目(出處)：	Spontaneous remission of eosinophilic granuloma of the maxilla after incisional biopsy: a case report (Vargas et al. Head & Face Medicine (2016) 12:21 DOI 10.1186/ s13005-016-0118-9)
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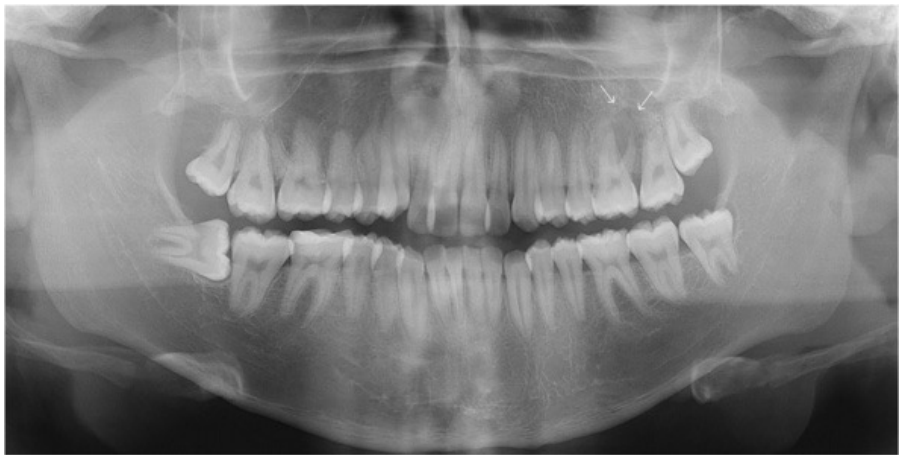
內文：

Background

1. 1953 -Lichtenstein and Jaffe introduced the term Histiocytosis X : a group of uncommon granulomatous proliferative disorders characterized by the presence of histiocytic cells.
2. The three clinical manifestations of Histiocytosis X : Eosinophilic granuloma (EG), Hand-Schuller-Christian and Letterer-Siwe diseases
3. 1985 -The disease changed name to Langerhans Cell Histiocytosis (LCH)
4. LCH is an uncommon disease
5. Only 1 % of the head and neck region cases of EG involves the maxillary bone

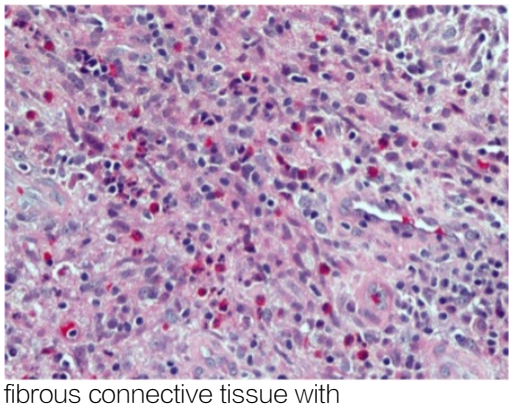
Case Presentation

1. Patient: 16y/o male ,without any relevant aspects in his medical history
2. Family history:
   - Father: Non-Hodgkin lymphoma (being treated)
   - Mother: breast cancerin (being treated)
3. The patient was derived from the Hematology Unit for evaluation and definitive treatment of an osteolytic lesion in the left maxillary region
4. A panoramic radiograph in a routine dental exam showed a radiolucent image. The patient underwent a biopsy of an asymptomatic osteolytic lesion located at apical level of the first upper left molar.

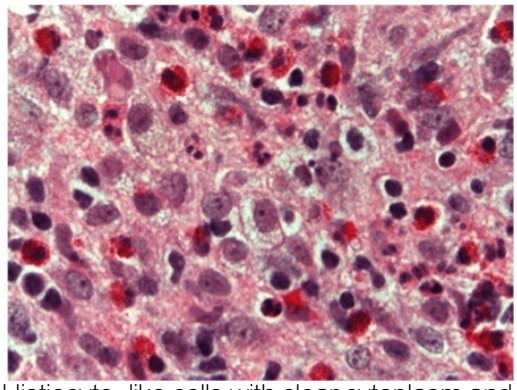


Panoramic radiograph obtained before biopsy, showing an osteolytic lesion in relation to periapex of the first upper left molar and projecting toward the floor of the maxillary sinus (white arrows)

5. The clinical examination: the patient only had a slight and generalized gingival inflammation, and no other findings.
6. **Biopsy** : the sample was consistent with bone monostotic Eosinophilic granuloma (**Langerhans histiocytosis**).

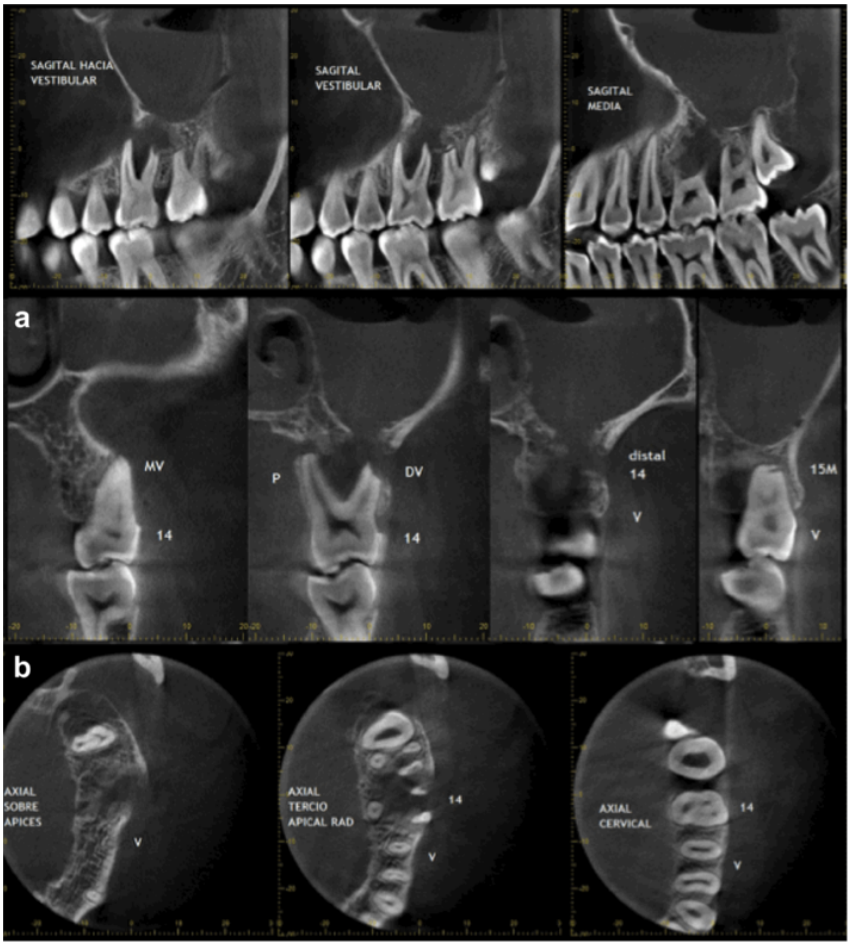


fibrous connective tissue with lymphoplasmacytic inflammatory infiltrate and strong presence of eosinophils

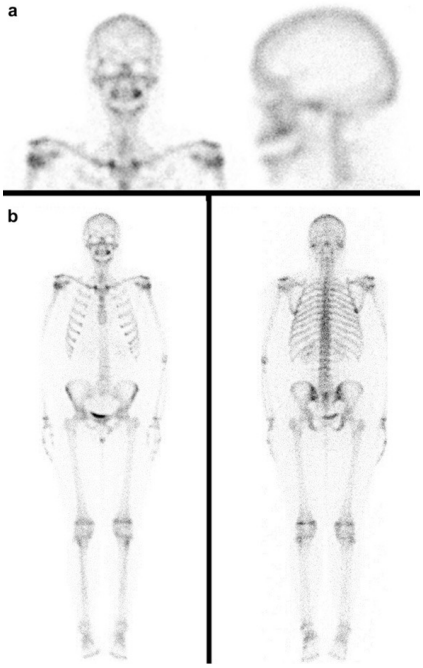


Histiocyte-like cells with clear cytoplasm and pale rounded or some indented nuclei can be observed. Prominent eosinophilic granules and also some neutrophils are present

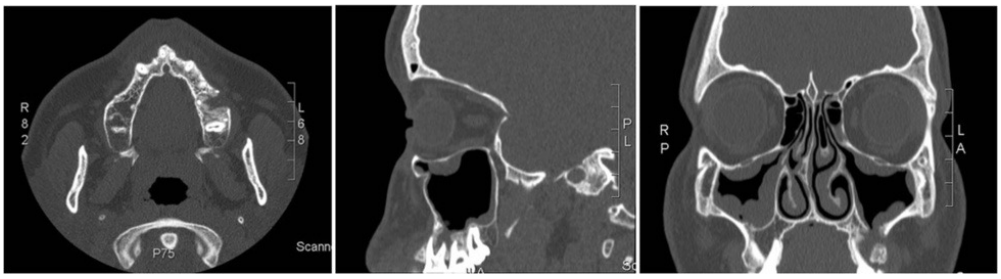
7. **CBCT** showed:
   - Inflammatory changes in relation to the left maxillary sinus with great opacification
   - Osteolysis over the roots of the upper left first molar, causing soil discontinuity of the ipsilateral sinus
   - Extensive loss of continuity of the oral bone plate



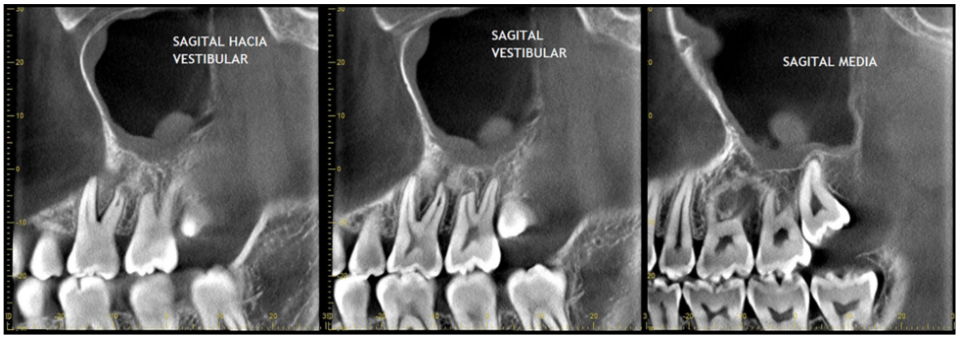
8. **Bone scintigraphy** : increase in **osteoblast activity** in the left maxillary bone



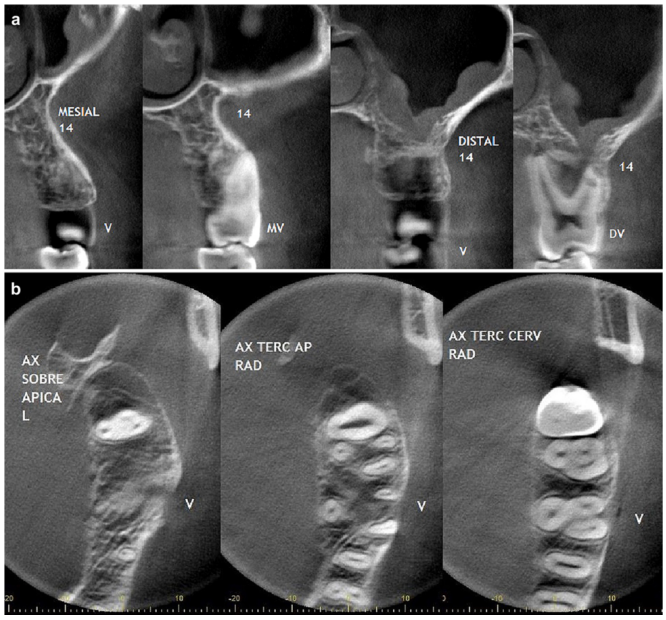
9. CT images: after the biopsy and before complete surgical removal of the lesion



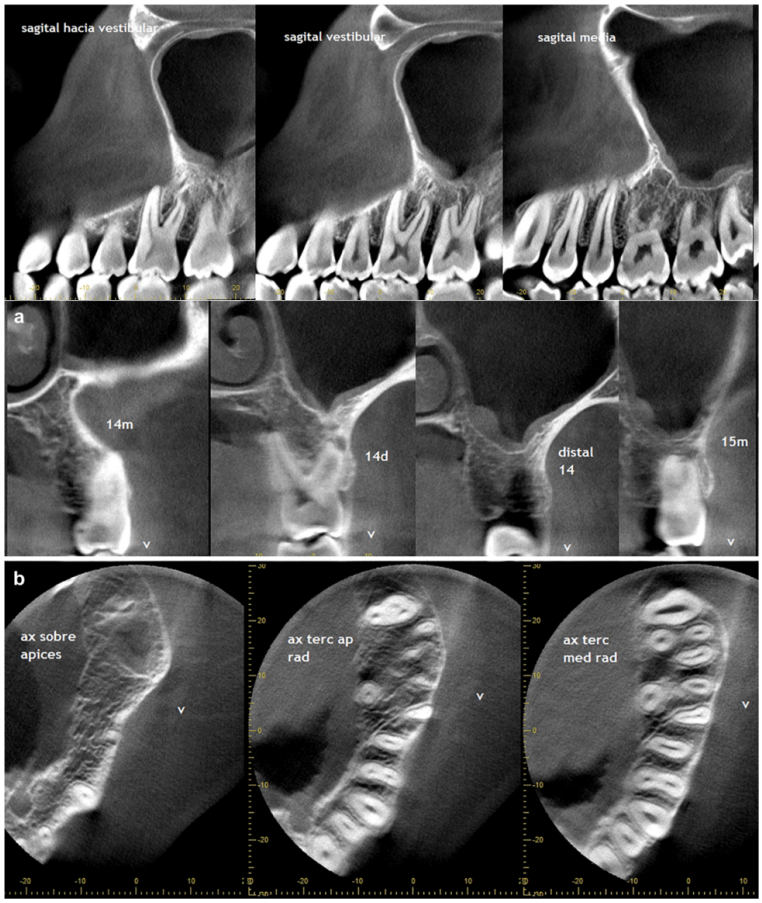
10. **CBCT images of three months after first examination:**
Showing recovery of the left maxillary sinus transparency although the mucosal thickening of the floor persists



11. Later studies showed recovery of the left maxillary sinus transparency in spite of the persistence of mucosal thickening of the sinus floor.
- **Newly formed bone** in the periphery and between the roots
- Decrease of the hypodense areas found in the previous examination



12. **Nine months after the biopsy:**
It is possible to see the repaired bone in the area initially affected



13. Since the EG is a benign lesion, which developed a spontaneous remission in this case, our patient’s prognosis is excellent, as long he follows his regular checks in order to detect any early recurrence or new outbreaks for at least 5 years.

Discussion

1. **Langerhans cell histiocytosis (LCH):**
   (a)a group of disorders characterized for a clonal proliferation of Langerhans cells
   (b)a wide spectrum of clinical presentations:
      (1)solitary bone lesions with excellent prognosis, known as eosinophilic granuloma
      (2)with a multi-organic, disseminated and progressive course, previously known as Hand-Schüller-Christian syndrome and Letterer-Siwe disease

2. The current classification:
   (a)single system disease with one organ or system involved
   (b)multi-system disease with two or more systems involved that may include 'risk organs' (hematopoietic system, spleen and/or liver)

3. A presumptive diagnosis is made when:
   (a)typical morphological features of **Langerhans cells** are found
   (b)stains for **S-100 protein**, **CD1a** and/or **CD207 (Langerin) antigens** are positive

4. Bone scan and PET are indicated to evaluate multiple involvements and to discard the possibility of polyostotic disease
   (PET scan shows how organs and tissues are working, the structure of and blood flow to and from organs.)

5. Cause and pathogenesis: **still unknown**
   It has been proposed that a basic immune defect may lead to proliferation of Langerhans cells; or that the Langerhans cell itself may carry a genetic defect leading to abnormal cellular proliferation.

6. A key feature of this neoplasm is its clonal derivation from a single cell, which does not necessarily mean malignancy

7. Proinflammatory cytokines and chemokines and oncogenic B- type Raf kinase (BRAF) gene mutations are involved in the pathogenesis of EG

8. BRAF mutations are present in several malignant neoplasias
   Its finding in EG suggests a neoplastic condition of the lesion
   ->reevaluated considering the existence of spontaneous resolution

9. Differentiation disorders of Langerhans cells have also been studied:
   Interleukin 1 and mutations of BRAF genes
   ->being considered as potential therapeutic targets

10. Associated with other malignancies such as leukemias, lymphomas and other solid tumors
    Acute lymphoblastic leukemia and lymphoma occur more often prior to the diagnosis of LCH, but they may be diagnosed up to 5 years after LCH

11. In our case: family history of malignancies
(no clear family association for the development of these disorders)

12.Clinical course and prognosis:
(a)age of initial manifestation
(b)the location and the organs involved

13.Multisystem disease (MS-LCH) has a worse prognosis (more complex treatment)

14.skeleton (80 % of cases) and the skin are more frequently involved

15.EG of bone: one per 350,000 to 2 million per year
most common in teenagers and adults
patients under **20** years old (75%) and under **40**(90%)
average age :19
male > female (about twice)

16.In head and neck bone region:(Hicks J. et al., 2005)
skull (27 - 43 %)
mandible (7 - 9 %)
maxillary bone (1 %)
cervical vertebra (2 %)

17.Unifocal: 50 - 75 %

18.Our case : unifocal
alveolar ridge of the maxillary bone -> low incidence
especially for its **spontaneous regression**

19.spectrum of EG in maxillary and mandibular bones is quite varied

20.May mimic a variety of conditions, such as apical cysts, odontogenic tumors (e.g., ameloblastoma), non-odontogenic tumors (e.g., central giant cell granuloma), inflammatory diseases (e.g., osteomyelitis), vascular malformations, and malignancies

21.the most common s/s in the oral cavity :
intraoral mass, pain, gingival inflammation, bleeding, mobile teeth, oral mucosal ulcer, impaired healing, and halitosis
-> usually misdiagnosed as marginal periodontal infections

22.Lesion may occasionally remain asymptomatic
-> underdiagnosis
(our case: only referred localized swelling associated with gingival inflammation, with neither pain nor tooth mobility, and the lesion was detected with a routine panoramic radiography.)

23.Single system disease has good prognosis with a high rate of spontaneous remission and negligible mortality

24.unifocal bone disease:
- lesion is small (<2 cm) -> complete excision of bone lesions (curettage)
- lesions with a diameter of 2 to 5 cm -> a biopsy and curettage

25.Our case: apparently simple curettage during the diagnostic biopsy turned out in remission at the control with CT scan -> keep an expectant attitude

26.Other therapeutic combinations:
(a)intra lesional injection of steroids
(b)surgery
(c)chemotherapy
(d)radiation
(e)monoclonal CD-1a-antibody-therapy and gene transfer

27.Excision (with or without radiation therapy) : > 95 % disease-free survival
recurrence rate:
Surgery alone:12 %
Radiation therapy alone: 25 %
both combined therapies: 19 %

28.In the present case: more than 1 year of postoperative controls
(bone scintigraphy discards the possibility of polyostotic disease -> maintain an expectant approach of the regression)

29.F/u:
(a)at least 5 years after the end of therapy
(b)5 years after the last disease reactivation, in those who did not receive systemic therapy
(c)until final growth and pubertal development have occurred
Our case: since the pubertal growth of the patient is probably finished, a minimum of 5 years follow-up is necessary

Conclusion

1. To diagnosis of LCH: a thorough examination and discard their participation in other systems

2. Our case: conservative approaches in the management of EG solitary maxillary bone lesions and an expectant attitude toward the possibility of spontaneous regression only performing biopsy, especially in small lesions.

題號	題目
1	下列哪一種bone不是LCH最常好發的位置？ (A) Maxilla (B) Mandible (C) Ribs (D) Vertebrae
答案(A)	出處：Oral and Maxillofacial Pathology, 3rd edition, P.590
題號	題目
2	下列何種檢查可看到蘭格罕氏細胞組織細胞增多症（Langerhans cell histiocytosis）診斷標準的伯別克顆粒（Birbeck granules）？ (A) 抽血 (B) X光 (C) 電子顯微鏡 (D) 超音波
答案(C)	出處：96年第二次專門職業及技術人員高等考試牙醫師、助產師、職能治療師、呼吸治療師、獸醫師考試