原文題目(出處)：	Orthodontic movement of impacted cuspid in fibrodysplastic bone: A case report. Bone 2010;46:248-50
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報告日期：	99.05.11

內文：

- A case of orthodontic replacement of impacted cuspid in fibro dysplastic maxillary bone in a 12-year-old girl
- In September 2002, the swelling started on the right incisor-premolar region of the maxilla, as a small,painless growth
- A general dentist noticed the inclusion of the right cuspid and proceeded to surgical exposition and direct bonding for orthodontic traction
- After the exposition of the impacted canine,the swelling increased in size resulting in asymmetry of the face
- Extraoral examination

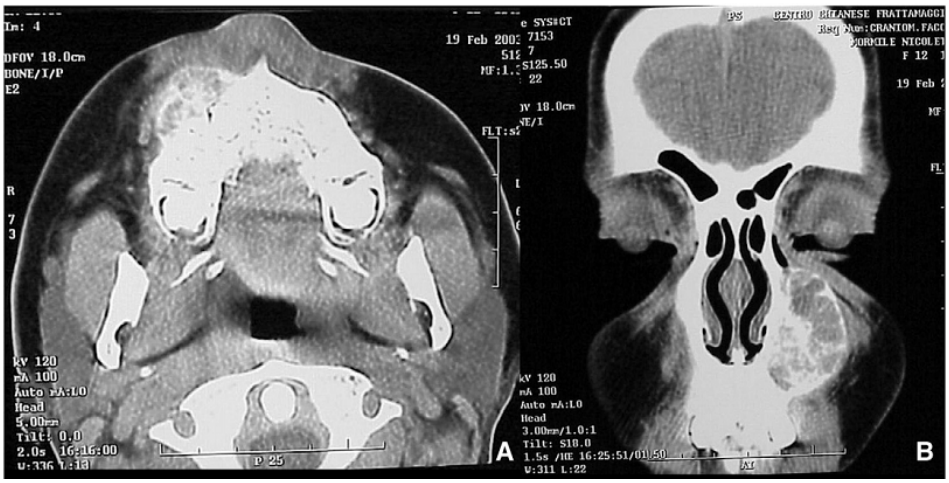
bony,hard swelling of the right maxilla, extending from the right infra-orbital region to the upper lip. The nasolabial fold had been obliterated. The overlying skin was normal

- intraoral examination

a flattening of the upper buccal fold in canine area and the wire emerging between right 1st premolar and lateral incisor. The orthopantomogram revealed the impacted cuspid with the wire leaved from the previous surgery.

- CT

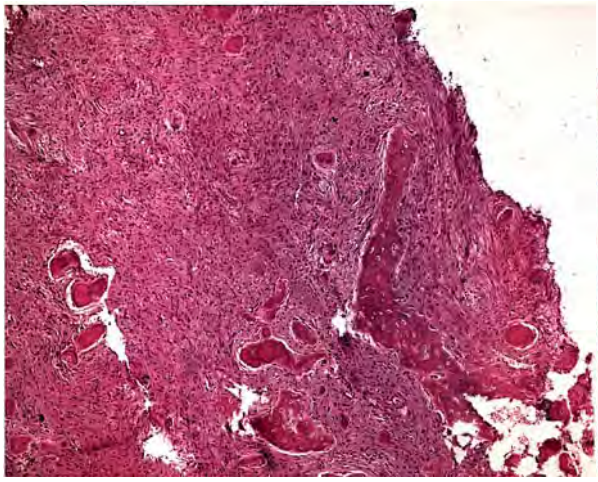
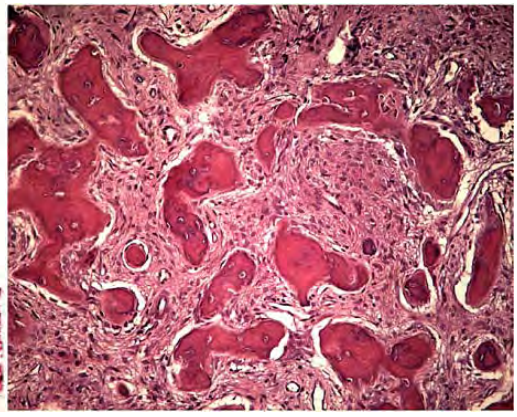
A mass with mixed aspect in Rt Maxilla extending to right orbit and right maxillary sinus.



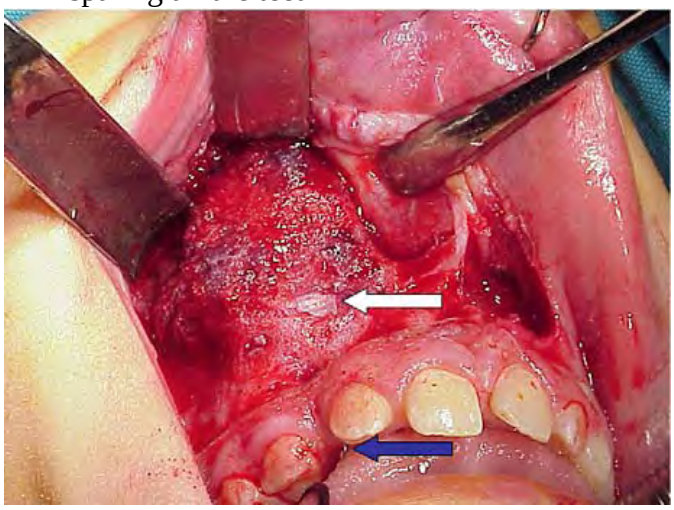
- A Diagnosis of fibrous dysplasia was made on the basis of an incisional

biopsy

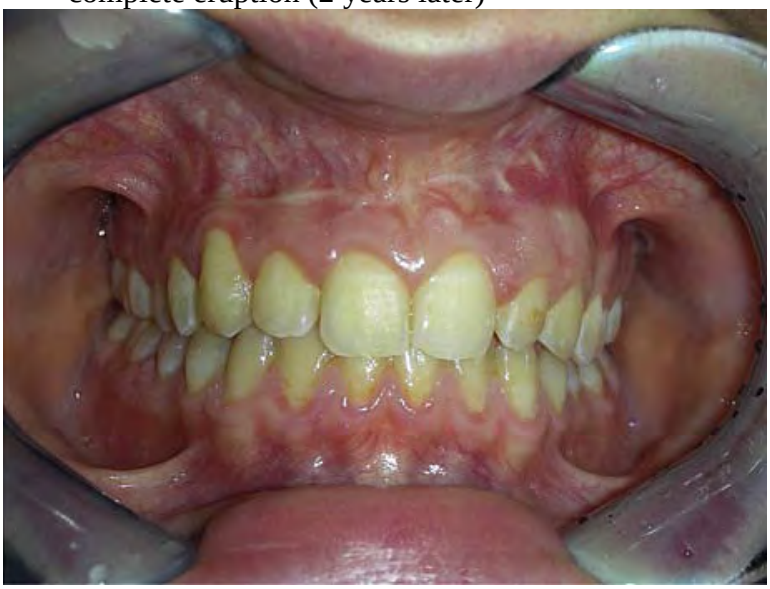
1. compact, collagenous fibrous tissue associated with bone trabeculae with Chinese letter pattern
2. osteoblastic rimming was not evident

- The surgical resection was performed with recontouring of the maxilla ,and sparing all the teeth



- The orthodontic treatment of the impacted tooth was performed until the complete eruption (2 years later)



- Fibrous dysplasia of bone

1. A congenital, nonheritable skeletal disorder
2. affects both sexes equally

3. diagnosed in childhood or adolescence
4. The lesions tend to become static as skeleton maturity is reached
5. May affect one or several bones and may involve extra skeletal organs
6. Skeletal involvement

Monostotic forms
Polyostotic forms
Panostotic forms

1. The proximal part of the femur and craniofacial bones are the two most commonly affected sites.
2. Occurs more frequently in the maxilla than mandible

- Classical histopathological features

1. cellular fibrous tissue with spindle shaped cells and immature,isolated trabeculae of woven bone generally without rimming of osteoblasts

- bone marrow cells are affected by missense mutations leads to a block in the differentiation of the primitive bone marrow stromal cells to mature bone cells
- The presence of activating somatic mutations of the Gsα genein osteoblastic cells derived from fibrotic lesions in patients with monostotic fibrous dysplasia, suggesting that the mutation may induce abnormal osteoblastic cell proliferation in this disorder
- Mutational activation of the α-sub unit has been associated with increased proliferation in a number of endocrine tissues and in fibroblasts
- mutations of the Gsα gene may induce abnormalities in the control of osteoblast growth and differentiation, resulting in fibrous dysplasia .
- Cells that produce specialized products usually appear round, a

shape that might facilitate exposure of specific parts of their genome

- in orthodontic tooth movement, such transformations in cellular

shape are readily visible in mechanically stressed paradental cells

In unstressed PDLsites , alveolar bone osteoblasts appear flat, while those in areas of PDL tension seem large and round in areas of PDL compression,PDL fibroblasts assume a round shape.

- Histologic studies by Reitan and Rygh

1. activated osteoblasts in PDL tension sites are engaged in producing a new bone matrix
2. PDL cells in compression sites are primarily involved in enzymatic degradation of the compressed extracellular matrix

- The fibroblasts, in areas of tension, proliferate and synthesize new matrix components, and in areas of compression they degrade the necrotic PDL.
- In tooth movement, PDL fibroblast is responsible for the remodeling of the periodontal matrix, and may be actively involved in the regulation of the activity of the cells that remodel the alveolar bone.
- Osteocytes also seem to be sensitive to applied loads , and it was suggested that these cells, which are capable of recognizing and responding to molecular reorientation in their surrounding matrix,communicate these alterations to bone surface cells providing them with an osteogenic stimulus
- Despite the fibrous dysplasia affect osteoblastic activity and proliferation, the present case suggests a normal response of dysplastic bone to the orthodontic forces and thus the possibility of an orthodontic treatment

題號	題目
1	在 tooth movement 中，PDL fibroblast 扮演的腳色 (A) be responsible for the remodeling of the periodontal matrix (B) Actively involved in the regulation of the activity of the cells that remodel the alveolar bone (C) 以上皆是 (D) 以上皆非
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2	下列有關 fibrous dysplasia 的敘述何者錯誤? (A) A congenital, nonheritable skeletal disorder. (B) The proximal part of the femur and craniofacial bones are the two most commonly affected sites. Occurs more frequently in the mandible than maxilla (C) cellular fibrous tissue with spindle shaped cells and immature,isolated trabeculae of woven bone generally without rimming of osteoblasts (D) The lesions tend to become static as skeleton maturity is reached.
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