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內文:

Introduction

1. The term traumatic bone cyst has been recognized as a misnomer in that the incidence of prior trauma in patients with this entity is the same as in the general population.

2. A variety of other terms have been used by different authors to describe the traumatic bone cyst: solitary bone cyst, simple bone cyst, hemorrhagic bone cyst, progressive bone cyst, idiopathic bone cyst, and unicameral bone cyst.

3. Several hypotheses for the pathogenesis of this lesion:

(A)Cohen: the cyst develops because of a lack of collateral lymphatic drainage of venous sinusoids. This apparent blockage then results in the entrapment of interstitial fluid causing resorption of the bony trabeculae and cyst development.

(B)Mirra et al: traumatic bone cysts are synovial cysts, developing as a result of a developmental anomaly whereby synovial tissue is incorporated intraosseously.

4. Traumatic bone cysts are typically found as solitary lesions.

 \rightarrow multiple synchronous lesions were reported to occur in about 11% of cases.

Repot of a case

Present illness:

A 32-year-old white woman saw her general dentist for a routine annual visit when a large radiolucency of the left mandibular body was noted on her panoramic radiograph. Endodontic treatment of the lower left first molar tooth was begun for a presumed diagnosis of a radicular cyst. There was no change in the size of the lesion over the following 6-month period, and she was referred to the Department of Oral and Maxillofacial Surgery, Emory University (Atlanta, GA).

Past medical history:

a right cerebrovascular accident 8 years earlier that resulted in right-sided deafness and hypoesthesia of all divisions of the right trigeminal nerve ;

recalled no history of trauma.

seasonal allergies for which she periodically took antihistamine medication.

Personal habit:

occasional alcohol use but denied any use of tobacco products.

Clinical examination:

unremarkable with no evidence of lymphadenopathy, swelling, or asymmetry.

Intraoral examination:

no soft tissue abnormality or bony expansion;

the periodontium: healthy with no evidence of gingivitis, periodontal pocketing, or tooth mobility ;

no carious lesions.

all teeth is vital except the lower left first molar

panoramic radiograph:

a scalloped unilocular radiolucency in the left body area and multiple unilocular

periapical radiolucencies in the mandibular symphyseal region



computed tomography scanning:

a unicystic lesion within the left mandibular body and multiple unicystic lesions within the mandibular symphysis

Impression:

The symphyseal lesions were thought to most likely be periapical cemental dysplasia.

The left mandibular lesion was thought to be a traumatic bone cyst, radicular cyst, keratocyst, or unicystic ameloblastoma.







Before surgery:

endodontic treatment was completed; a complete blood count and serum electrolyte levels, including calcium, were assessed; all indices were within normal limits.

Treatment plan:

Excisional biopsy of the left mandibular body lesion with apicoectomy and retrograde filling of the lower left first molar. An excisional biopsy of one of the symphyseal lesions was also proposed.

Surgical procedure:

1.under general anesthesia, both lesions were approached with gingival crevicular incisions with anterior vertical releases.

2. Subperiosteal dissection exposed the overlying bone \rightarrow bone was normal.

3.A drill was then used to remove the buccal cortical plate overlying the lesions.

 \rightarrow Both lesions was empty with no evidence of a lining or fluid content. In the anterior lesion, dental branches of the incisal neurovascular bundle were noted traversing the cavity.

4.Both lesions were curetted in an attempt to obtain tissue for histopathology.

 \rightarrow no soft tissue lining was encountered, so no tissue could be obtained for histopathologic analysis. Minimal bleeding was present in both cavities when curettage.

5. Apicoectomy and retrograde filling with super ethoxy benzoic acid were then performed on the mesial root of the lower left first molar tooth.

Post-OP follow-up:

panoramic radiograph: good bony filling of all lesions at 12 months including the symphyseal lesions that were not surgically explored



Discussion

1. Our case: A female adult patient with multiple unilocular lesions of the mandibular body and symphysis

2. Kaugars and Cale: traumatic bone cysts have an equal prevalence in both genders, mean age of 18 years, most often affect the posterior mandible(max. uncommon)

 \rightarrow this case was an older adult

3. Various hypotheses for the pathogenesis of the traumatic bone cyst:

(A) a traumatic event inciting medullary hemorrhage and a subsequent failure of the hematoma to organize and be replaced with tissue

 \rightarrow but 1.0ften there is no history of trauma 2. there is no difference in the prevalence between males and females despite a higher incidence of trauma in males.

(B) Cohen: the formation due to a blockage of the normal draining of interstitial fluid.

 \rightarrow 1. as in our case, many traumatic bone cysts are found to be empty at surgery with no evidence of cyst fluid.

2. if the cyst developed because of a blockage of draining interstitial fluid, lesions would develop with a more equal frequency in all locations within the facial skeleton

(C) Mirra et al: a small nest of synovium becomes trapped intraosseously during fetal or early infant development and that this tissue may retain some secretory function, resulting in the development of a cyst.

 \rightarrow neither of the surgical cavities entered showed any fluid content or evidence of a synovial lining.

 \rightarrow if synovial tissue exists within the cystic cavity, localized curettage to promote bleeding should not remove all of this tissue and cyst recurrence would seem likely. Recurrence of a traumatic bone cyst after localized curettage is rare.

4. The etiology of the traumatic bone cyst after localized curetiage is fare.

the initial development, and the potential source of the fluid of the traumatic bone cyst is unclear.

5. in our patient all symphyseal lesions resolved although only one was surgically entered.

 \rightarrow likely all of the symphyseal lesions were in communication, perhaps through very small sinusoids or channels.

6. The diagnosis of traumatic bone cyst relies on clinical, radiographic, and surgical findings within the oral and maxillofacial skeleton as well as the appendicular or axial skeleton.

7. One unique difference in the orthopedic literature exists:

80% of orthopedic traumatic bone cysts are discovered because of pathologic fracture (maxillofacial lesions that are noted incidentally on panoramic radiographs and a

pathologic fracture has not been previously reported)

8. The diagnosis of orthopedic traumatic bone cysts relies on a typical radiographic appearance and aspiration of straw-colored fluid at surgery.

 \rightarrow It is possible that many traumatic bone cysts accumulate fluid after the fracture.

9. The diagnosis of maxillofacial traumatic bone cysts relies on a typical radiographic appearance and the more common identification of an empty cavity at surgery.

The original description of the traumatic bone cyst in the maxillofacial literature identified this cyst by the presence of clear cystic fluid at surgery

 \rightarrow may simply represent different stages in the development of the same lesion.

Hansen: 66 traumatic bone cysts of the jaws with only 30 of the lesions being empty.

10. Computed tomography will usually allow distinction between solid/fluid-filled lesions and air-filled cavities.

11. Within the orthopedic literature, intralesional injection of methylprednisolone has been described as a treatment modality for traumatic bone cysts in the long bones.

12. A study comparing operative treatment and steroid injection in 57 patients with lower and upper extremity lesions resulted in a 38% recurrence rate after surgical intervention compared with 5% after steroid treatment.

 \rightarrow The steroid method may have equal efficacy but less morbidity compared with operative treatment.

13. The mechanism of action of corticosteroid is complex, with both anti-inflammatory properties and significant attenuation of cellular metabolism

14. Methylprednisolone has been shown to influence synovial cells to secrete less prostaglandin(前列腺素), resulting in a decrease in bone resorption

15. Further studies clarify the etiology and management of these curious lesions.

題號	題目	
1	Traumatic bone cyst最常發生在何種年齡?	
	(A) 0~10 y/o	
	(B) 10~20 y/o	
	(C) 20~30 y/o	
	(D) >50 y/o	
答案(B)	出處: oral & maxillofacial pathology P550	
題號	題目	
2	下列何種物質會注射入Traumatic bone cyst for treatment?	
	(A) steroid	
	(B) Normal saline	
	(C) Glucose water	
	(D) Chlorhexidine	
答案(A)	出處: oral & maxillofacial pathology P551	