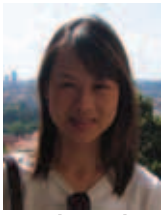

Yun Shane Chew

Behnam Aghabeigi

Spontaneous Regression of Bilateral Dentigerous Cysts: A Case Report

Abstract: A dentigerous cyst is the most common developmental odontogenic cyst and believed to be slowly progressive in nature. This case report describes an incidental finding of spontaneous regression of bilateral dentigerous cysts associated with lower impacted third molars in a 30-year-old, fully dentate female. Together with three other similar reports, a few possible explanations are postulated and the understanding of natural history of dentigerous cysts is questioned.

Clinical Relevance: The discovery of a dentigerous cyst in a patient always warrants special attention. This article highlights the fact that surgical treatment is not the only solution for a dentigerous cyst and, in rare cases, conservative management can save the patient from having unnecessary surgery.

Dent Update 2008; 35: 63-65

Dentigerous cyst is the second most common odontogenic cyst, after radicular cyst, and the most common developmental odontogenic cyst, accounting for up to a quarter of all cysts in the jaw. It originates from the reduced enamel epithelium of a developing tooth and radiographically presents as radiolucency around the crown of a developing tooth. The most common teeth involved are mandibular third molars, followed by maxillary permanent canines and mandibular second premolars. The cysts are usually slow growing and asymptomatic, thus usually discovered incidentally from radiographs.

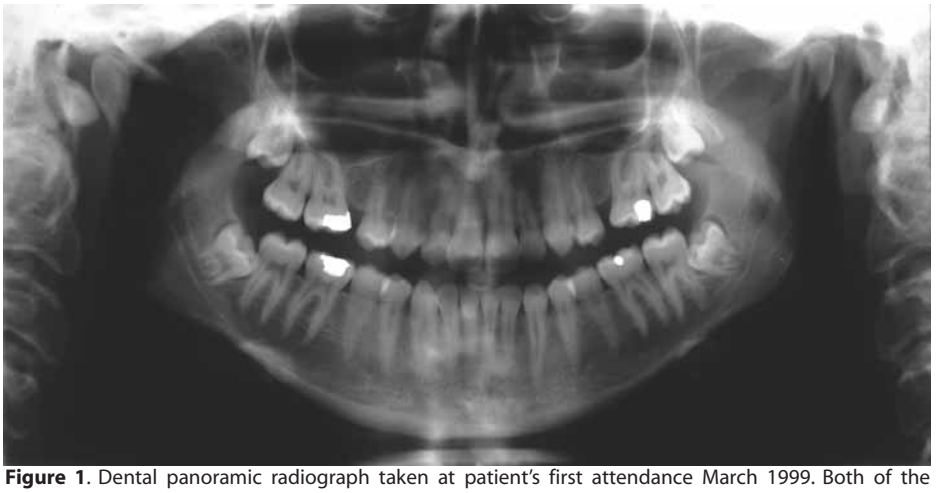

Figure 1. Dental panoramic radiograph taken at patient's first attendance March 1999. Both of the mandibular molars are unerupted and mesioangularly impacted.

Case history

A 27-year-old female presented to the examination and emergency department of Birmingham Dental Hospital in April 2002 complaining of pain in the upper left third molar. A dental panoramic radiograph at the visit revealed an incidental finding of cystic lesions associated with both the lower third molars. A referral was therefore made to the oral surgery department.

When she was seen in the oral surgery consultant clinic in July 2002, her main complaint was a continuous dull ache associated with the upper left third molar, but nothing about her lower

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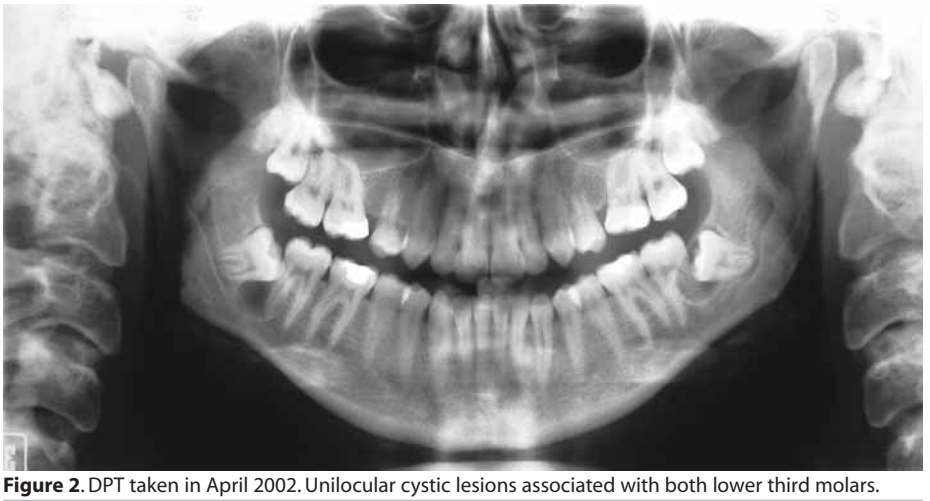

Figure 2. DPT taken in April 2002. Unilocular cystic lesions associated with both lower third molars.

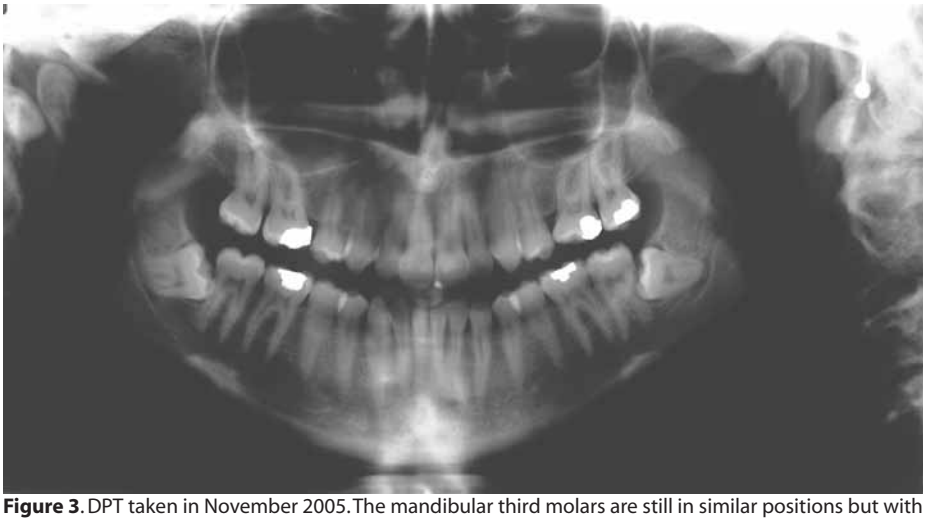

Figure 3. DPT taken in November 2005. The mandibular third molars are still in similar positions but with no sign of cystic lesion.

molars. Past medical history revealed that she was taking oral contraceptive pills and there was no significant medical condition. She had been attending the Birmingham Dental Hospital School of Hygiene regularly over the past 3 years for simple periodontal treatment. A routine dental panoramic radiograph taken at her initial visit did not show any radiographic abnormality related to wisdom teeth (Figure 1). She was a non-smoker and occasional drinker. On examination, the only wisdom tooth presented in the mouth was the upper left third molar, which was partially erupted with inflamed gingiva. The lower third molar regions appeared normal and there was no bucco-lingual expansion. A dental panoramic radiograph taken in April 2002 (Figure 2) showed both of the unerupted lower third molars to be mesioangularly impacted. Both of the lower third molars were associated with a clearly defined unilocular cystic lesion. The lesion on the right enclosed the crown of the unerupted third molar from the amelocemental junction, whereas the lesion on the left was related mesially to the neck of the third molar, extending inferiorly to the apex of the distal root of the lower second molar. Clinical diagnoses of pericoronitis of the upper left third molar and dentigerous cysts of both the lower third molars were made. As a preliminary measure, the upper left third molar was removed under local anaesthetic and an appointment was arranged for the surgical removal of the lower wisdom teeth and associated dentigerous cysts under local anaesthetic and intra-venous sedation.

However, the patient subsequently became pregnant, deferring the plan of lower third molar extraction. Unfortunately, she did not attend her follow up appointment after her pregnancy until her general dental practitioner referred her back to the oral surgery department, three years after the first discovery of the lesions.

During the review in November 2005, the patient reported occasional mild discomfort from her lower third molar region bilaterally, which sometimes radiated to the temporal area. There was no pocketing associated with the distal aspect of the lower second molars. Masticatory muscles were tender to palpation and her pain symptoms were considered to be related to myofacial pain dysfunction syndrome. However, in view of the radiographic finding in 2002 and the nature of referral, a new dental panoramic radiograph was taken (Figure 3). Both of the lower third molars were still in the same position as the previous radiograph but with no sign of dentigerous cysts. As there was no justifiable indication for removal of her lower wisdom teeth, according to NICE guidelines, it was decided to avoid any surgical intervention.

Discussion

Overall, the management of this patient has been satisfactory but a few aspects warrant improvement. First, a radiograph of both sides of the jaw was not necessary when the patient presented to the examination and emergency department complaining of pain only from the upper left third molar. Secondly, further attempts to contact the patient for a follow up appointment after her pregnancy might have prevented the lapse of three years.

Because no surgical intervention, hence histopathological examination, has been carried out, a definitive diagnosis is not possible. The lesion on the right can be diagnosed with more confidence owing to the classical presentation of the dentigerous cyst, ie a well-defined unilocular lesion around the crown of an impacted tooth. However, diagnosis of the lesion on the left is more difficult and differential diagnosis of

lateral periodontal cyst or paradental cyst, cannot be eliminated. Other less common lesions that may produce similar unilocular radiolucent areas in the jaw are odontogenic keratocyst and ameloblastoma.

A review of the literature revealed only one previously published report of spontaneous regression of a bilateral dentigerous cysts.[1] There were two case reports related to spontaneous regression of a unilateral cyst.[2,3] All of those cases involved ectopic lower third molars.

Irving[2] proposed the possibility of spontaneous decompression of such lesions, when being exposed to the oral cavity. Adams[3] postulated a similar mechanism, in which the cyst became inflamed via the periodontal pocket on the distal aspect of the lower second molar, and the cyst subsequently disrupted and drained. Although there is no record of pocketing distal to the lower second molars in this case, this is likely to be the mechanism of drainage owing to the close association of the wisdom teeth to the second molars radiographically. Another possibility is simply radiographic error,[1] as a result of different patient positioning when the radiographs were taken. However, both of the panoramic views taken in April 2002 and November 2005 appear similar in quality.

Dentigerous cysts are believed to be slowly progressive in nature. Therefore, current standard treatments for ectopic teeth with dentigerous cysts are interventional; either enucleation or marsupialization to facilitate eruption of the involved tooth.[4] It is hard to assess the incidence of dentigerous cyst regression because most of the lesions, once discovered, are treated surgically before time allows for their regression.

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CPD ANSWERS

DECEMBER 2007

1. B, C, D	6. A, B, D
2. A, B, D	7. B, C, D
3. A, C, D	8. A, D
4. A, D	9. A, B
5. A, C	10. A, B, D