

Technical note

Conservative technique for enucleation of a large dentigerous cyst through bony fenestrations

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Dentigerous cysts are the most common developmental odontogenic cysts of the jaw. They occur in a wide range of age groups, and about three-quarters are associated with an unerupted mandibular third molar.¹ They are usually asymptomatic and therefore have the potential to grow to a large size before they are diagnosed. The definitive treatment is enucleation, together with extraction of the associated tooth.

Large cysts can be challenging, as enucleation may involve the removal of a large bony window, which further weakens the already compromised jaw. We describe a conservative technique for the enucleation of large dentigerous cysts.

A large unilocular radiolucent lesion that was associated with an impacted lower right wisdom tooth was identified in a 46-year-old man as an incidental finding on a radiograph (Fig. 1).

We made a crevicular incision from lower right 8 to lower left 2 and raised a mucoperiosteal flap, protecting the mental nerve. Rather than de-roofing the whole cyst, a fissure burr was used to create three small bony fenestrations in the buccal cortex overlying the cyst (Fig. 2). A Mitchell's trimmer and Howarth periosteal elevator were then used to enucleate the cyst through these small bony windows from an anterior to posterior direction. The cyst was removed, together with the impacted tooth, through the most posterior window. The patient was discharged home the same day, and had an uneventful recovery.



Fig. 1. Large dentigerous cyst in the right mandible.

This more conservative approach leaves wide bony struts of buccal bone between the fenestrations, which increases the strength to the mandible and reduces the risk of fracture. The removal of just a few small windows of bone compared to complete de-roofing of the cystic cavity may speed up healing. The limited access caused no particular difficulty, and the whole cyst was removed in one piece.

This technique is useful for larger dentigerous cysts when a more conservative approach is desirable. We have also used it to remove a large odontogenic keratocyst. The application of Carnoy's solution can, however, be diffi-

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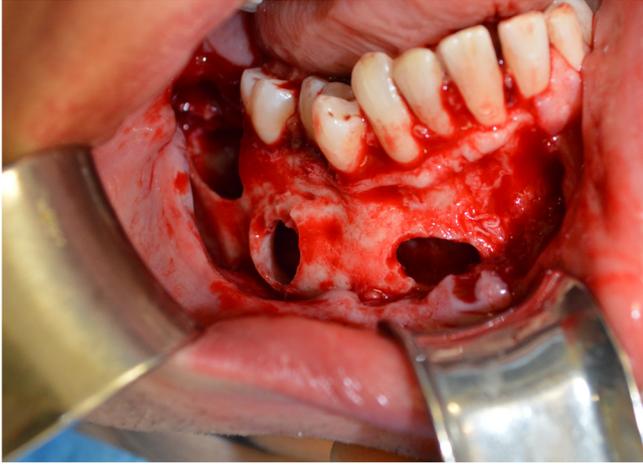


Fig. 2. Three bony fenestrations created to facilitate enucleation of the cyst.

cult, as coverage of the inferior alveolar nerve with ribbon gauze can be compromised, and it is therefore not recommended.

Conflict of interest

We have no conflicts of interest.

Ethics statement/confirmation of patients' permission

Ethics approval not needed. The patient's consent was obtained for the publication of clinical photographs.

Reference

1. El-Naggar AK, Chan JK, Grandis JR, et al. *WHO classification of head and neck tumours*, volume 9, 4th ed WHO Press; 2017.