

Case Report

A Novel Wire Obturator for Dentigerous Cyst: A Technical Note

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Conventional treatment of dentigerous cysts consists of marsupialization as the first option. Marsupialization therapy can stimulate spontaneous eruption of the involved tooth within the cyst. However, the marsupialization cavity gradually shrinks, leaving a cystic structure that is often infected following food impaction. Therefore, a gauze pack impregnated with antibiotic ointment or a denture-like obturator is usually inserted in the marsupialization cavity during wound healing and tooth eruption. It may take a long time for the tooth to erupt spontaneously after marsupialization.

After marsupialization of a dentigerous cyst in which an unerupted tooth is retained, a bent wire obturator can be easily attached to the buccal surface of the first and second molars with adhesive resin. The tip of the bent wire is deeply inserted into the cystic cavity through the gingival mucosa where the marsupialization was performed. We use a 50-60 mm wire, bent into an L-shape at 20 mm that there is a loop at the end, so that it can be inserted into the cystic cavity (Figure 1-3). The wire obturator can be maintained for 6-10 months and irrigated once a month in the outpatient clinic to ensure that the cystic cavity does not close. Occasionally, follow-up may be required for more than 12 months until the cyst has decreased in size radiographically or the tooth has spontaneously erupted (Figure 4). While the wire obturator is in place, the patient can self-clean the cystic cavity at home with normal oral hygiene instruments.

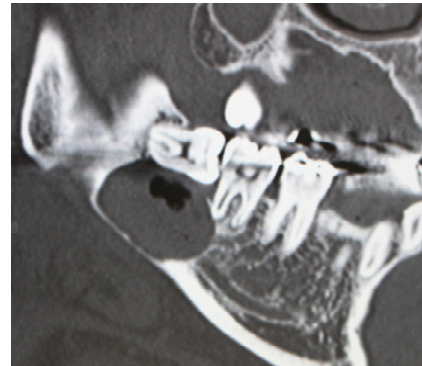


Figure 1: Cystic lesion including an unerupted third molar seen.



Figure 2: After marsupialization of the dentigerous cyst in which an unerupted tooth was retained, a bent wire obturator was attached to the buccal surface of the molars with adhesive resin.

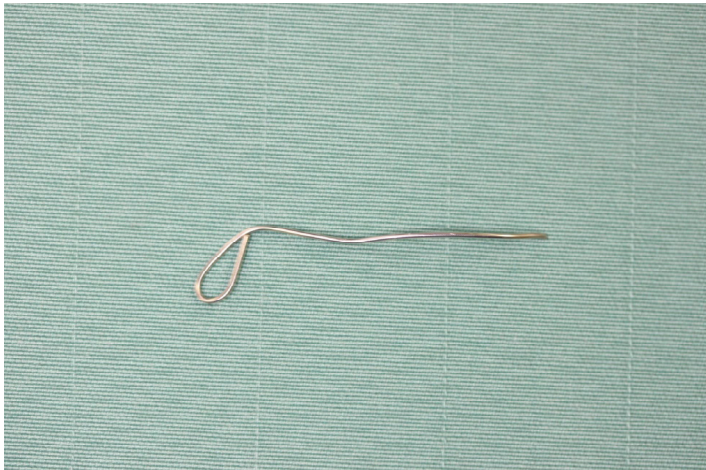


Figure 3: A 50-60 mm wire was bent into an L-shape at 20 mm that there is a loop at the end, and inserted into the cystic cavity.

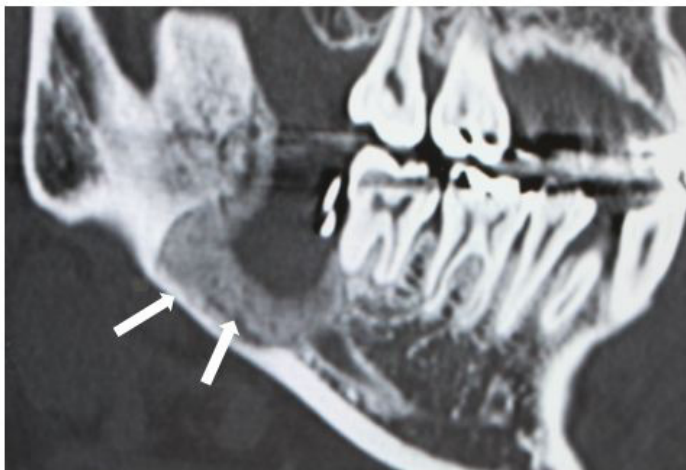


Figure 4: New bone formation found in the bottom of the cavity (the white arrows). A part of a wire obturator seen.

To prevent closure of the cavity after marsupialization has been performed, gauze packs impregnated with antibiotics or denture-like obturators are generally used for space maintenance after surgery. The disadvantages of marsupialization are that the treatment is prolonged and oral hygiene is difficult to maintain in the marsupialized area, especially when the dentigerous cyst is located in the molar region. Gauze packs impregnated with

antibiotics are inserted into the cavity and replaced at weekly visits until the surgical area is well healed. The marsupialization cavity is prone to food impaction, causing discomfort and bad breath for the patient.

Denture-like obturators are time-consuming and costly to fabricate, because an impression has to be taken in the clinic, and the obturator is then made in the dental laboratory [1,2]. Additionally, the obturator needs to be adjusted at every visit. The obturator may also cause chewing pain and discomfort as a result of mucosal damage and occlusal interference [3,4]. Wire obturators offer a simple, easy-to-use, and cost-effective method for maintaining the cavity until the unerupted tooth erupts. This technique is useful in cases of marsupialization with an unerupted tooth because the wire obturator can be placed intraoperatively in the marsupialized area. Because adjustment of the wire is not required, the number of patient visits is decreased. This technique allows for better oral hygiene and reduces discomfort after surgery for the patient. This innovative obturator is easily placed during the surgery, and this technique does not prolong the operative time, facilitating the postoperative management.

Conflict of Interest

We have no conflict of interest

Ethics Statement/Confirmation of Patient's Permission

We obtained written consent for publication of the photograph. No ethical approval was required.

Reference

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