ACCIDENTAL SWALLOWING OF A FOUR UNIT ANTERIOR BRIDGE: A CASE REPORT

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ABSTRACT

Dental prosthesis may be swallowed as well as aspirated that may result in acute medical or life threatening emergencies. A case of asymptomatic accidental swallowing of a four-unit anterior bridge is reported and the attention is drown to the fact that, the patient was not sure if the bridge was ingested or lost, while her main concern was esthetic as a result of the lost bridge. Patients with dental prosthesis should be informed of this potential risk of swallowing.

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Introduction

Swallowing of dental materials and devices may be a serious complication during routine dental treatment. In general, the majority of foreign body ingestions occur in the pediatric population [(1)]. In adults, true foreign object ingestion occurs more commonly among those with psychiatric disorders, mental retardation, or alcohol impairment, and those seeking some secondary gain with access to a medical facility [(2,3)]. The majority of foreign bodies that reach the gastrointestinal tract will pass spontaneously, however, 10-20% may require non-operative intervention, and 1%, or less may require surgery. Patients with prior gastrointestinal tract surgery or congenital gut malformations are at increased risk for obstruction or perforation [(4)]. Once passed through the esophagus, the majority of ingested foreign bodies pass through the alimentary tract uneventfully. The risk of perforation is higher when sharp or pointed metallic objects are ingested [(5)].

Swallowing incidents in dental environment are not rare. Such incidents may occur during dental treatment, as in case of swallowing an onlay when a patient attempted to speak during the dental procedure [(6)]; or a screwdriver during oral implant treatment [(7)]; or a gold cast crown during orthodontic tooth separation [(8)]; or a reamer during endodontic therapy [(9)]. In order to prevent such occurrence, different measures have been proposed such as using barriers (rubber dam, throat packs) and ligation of objects to be used intra-orally if they carry some risk of ingestion. Swallowing of dental objects may also occur away of the clinic. Impaction or ingestion of removable prosthesis is not rare particularly uni-lateral ones [(9)] or those replacing a single upper anterior tooth [(10)]. The possibility of accidental ingestion should be added to the factors considered when deciding whether a fixed or removable replacement of anterior teeth is indicated. Bridges are a more secure mean for such replacement than partial dentures. However, fixed prosthesis may also be ingested if inadequately retained [(11)]. This clinical report describes an accidental swallowing of a four-unit-anterior bridge that pass the alimentary tract without any complications and re-cemented in its place.

Clinical Report

A 24-year-old healthy female patient missed her appointment for final cementation of four units porcelain fused to metal anterior bridge. One month later she phoned the clinic to report the loss of the bridge. She was not sure if she had swallowed the bridge, but she noticed that the bridge was lost after eating a big chunk of ice cream and experiencing a transient difficulty in swallowing. The patient returned to the clinic primarily due to esthetic concern (Fig. 1). She had no symptoms, but worried about the possibility that she accidentally had swallowed the bridge. A temporary bridge was cemented and a plain abdominal X-ray was taken. The presence of the bridge in the lower abdomen was confirmed (Fig. 2). The general surgeon and the radiologist were consulted and they suggested that the bridge might be excreted without any intervention. The patient was asked to observe her bowel motions regularly looking for the bridge. The bridge was recovered in two days. After being disinfected in 2% glutaraldehyde overnight, the bridge was glazed, sandblasted, and re-cemented temporary for one week (Fig. 3), and permanently one week later.

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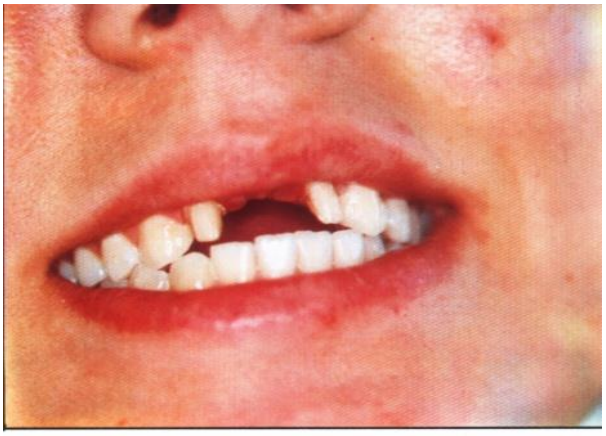

Fig. 1. The esthetic concern of the patient as a result of the lost bridge. Noticing the prepared laterals and the limited pontic space.

Fig. 2. The abdominal X-ray shows the swallowed bridge at the lower end of the large intestine.

Fig. 3. The bridge in place after permanent cementation.

Discussion

In the present case, the design of the bridge was governed by the limited space available for the two centrals and the size and inclination of the lateral incisors. According to Ante's law [12], it is contra-indicated to replace the upper central incisors using upper laterals as the only abutments since their root surface area is less than that of the centrals. The patient refused to include the canines in the bridge. The laterals were periodontally healthy and their crown-root ratio was close to the ideal (1:2). The possible presence of a premature contact of the bridge (which was confirmed during final cementation) might caused breakdown of the temporary cement and led to its looseness since articulating papers will not apparently indicate occlusal premature contacts on glazed porcelain. The use of more adhesive temporary cement might have been better in this case.

In general, ingested foreign bodies can be managed by conservative approach (close observation), endoscopy, or surgery. Sharp object (eg. dental bridges) ingestions may require different management from other foreign body ingestions because of possible gastrointestinal tract perforation [5]. Cases of symptomatic foreign body ingestion are usually presented in emergency department. History, physical examination, and various radiographs are essential for the emergency physician to confirm the diagnosis, identify the object's composition and shape and to determine its appropriate location in the tissues [13]. Once the object is discovered, the clinician must weigh the potential harm of the foreign body in its current location against the risk of attempting removal.

Many studies concluded that asymptomatic gastric and intestinal foreign bodies could be managed with outpatient daily observation until the foreign body spontaneously appeared in the feces [5,14]. Patients with prior gastrointestinal surgery or congenital gut malformation are at increased risk for perforation or obstruction [4]. In our case, the management decision was the conservative approach because the patient was medically fit, the bridge was in the lower abdomen, the condition was asymptomatic, and the only concern of the patient was the esthetics.

Conclusion

Since foreign body ingestion may result in acute medical or life-threatening emergency, prevention of such occurrence is therefore the best approach. Knowledge by the dental team of the signs and symptoms of a swallowed object, documentation and proper medical follow-up are all essential for better management of ingested objects. A patient with a dental prosthesis should be informed of this potential risk of swallowing. Fixed prosthesis should be checked carefully for retention and premature occlusal contact before glazing and temporary cementation. Finally such prosthesis should be permanently cemented as soon as possible.

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