

## Fiberscopic Removal of a Reamer from the Gastrointestinal Tract : Report of Two Cases

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**Abstract** Case 1, a 23-year-old man accidentally swallowed a reamer (dental instrument) during dental treatment. X-ray examination revealed the reamer in the stomach. On the 15th day after the accident, the reamer was found in the diverticulum duodeni and then did not move further. On the 24th day, the reamer was periorally removed by a fiberscopic manipulation. Case 2, a 26-year-old woman accidentally swallowed a reamer during dental treatment. Five hours later the reamer in the stomach was successfully removed with fiberscopic manipulation. There were no complications in both cases after the treatment. When the patient accidentally swallowed a dental material with sharp edges during dental treatment, removal with gastroscope is recommended without much expectation of spontaneous discharge.

*Key Words:* Foreign body; dental instrument, fiberscopy

### Introduction

One of the serious complications during dental treatment is the accidental swallowing of a reamer. Although most of the undigestible foreign substances are excreted through the gastrointestinal tract without problems, the main complications in pharynx or esophagus are mediastinitis and pneumothorax and there is a possibility to perforate into the gastrointestinal wall. Once a foreign body has safely passed into the stomach or small intestine, uneventful passage through

the large intestine can be expected. However, because a reamer has sharp projection, perioral removal may be indicated when the reamer remains in esophagus or in stomach. Advance of the fiberscopy facilitated us to remove a reamer from the gastrointestinal tract. We report two cases of accidentally swallowed reamers during dental treatment.

### Case report

#### *Case 1*

A 23-year-old man, who was under the treatment of the mandibular left second molar pulpitis, accidentally swallowed a root canal reamer, which was revealed in the

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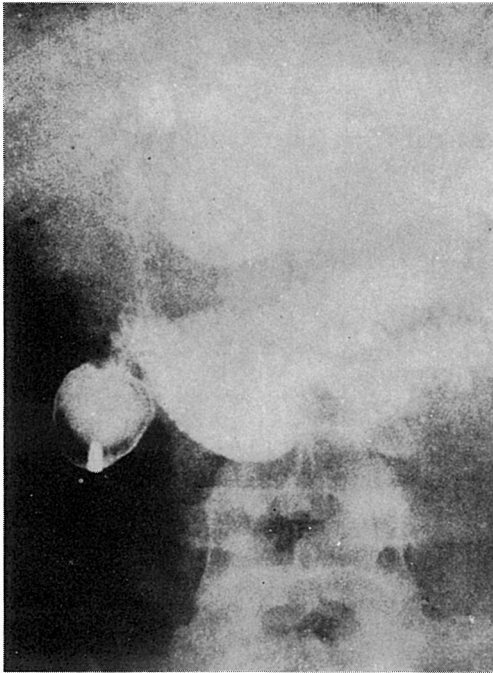


Fig. 1 Case 1. On the 24th day, the reamer in the diverticulum of the duodenum was removed with fiberoptic under roentgenoscope.

stomach by x-ray examination. However, the patient was allowed to go home in anticipation of spontaneous discharge in the stool. On the 10th day after the accident, the patient complained prickling pain in the upper abdomen all day long, but subsided the next day.

On the 14th day, the patient was admitted to our clinic because of recurrence of the abdominal prickling. On the 15th day, the reamer was found in the duodenum by x-ray examination. On the 17th day, it was found in the diverticulum duodeni. On the 24th day, the reamer was periorally removed by a fiberoptic manipulation (Fig. 1) and the patient was discharged without further trouble.

#### Case 2

A 26-year-old woman accidentally swallowed a root canal reamer during the treatment

of pulpitis of the mandibular right third molar. Immediate x-ray examination revealed the reamer with sharp edge in the stomach. Fiberoptic removal was attempted, but the reamer was not found, being mixed in the food. Five hours later fiberoptic technique was applied again and the reamer was removed successfully (Fig. 2). There were no signs of complication and the patient was discharged on the next day.

#### Discussion

One of the serious complications during dental treatment is an accidental swallowing of a dental instrument or appliance. Most of them will pass through the gastrointestinal tract without any disturbances. It was also reported that swallowed endodontic files or instruments passed through the gastrointestinal tract without disturbance<sup>1)</sup>. One case has been reported in which a swallowed reamer traveled through the gastrointestinal tract over 4 weeks<sup>2)</sup>. The foreign body usually passes through the gastrointestinal tract in 3 to 4 days, but sometimes it takes as long as 3 to 4 weeks. However, perforation or impaction to the gastrointestinal tract may occur because of their sharp projection. Cleator and Christie<sup>3)</sup> described the impaction and perforation of a dental plate in the sigmoid colon. Goultchin<sup>4)</sup> reported that an endodontic instrument was removed surgically from the duodenum one month after the accident. In our cases, the reamers were found in either in duodenum or stomach, and their removal by fiberoptic manipulation was successfully done without complications.

When a dental material is swallowed into the stomach during dental treatment, x-ray examination should be taken immediately. But some of them are not radiopaque<sup>5)</sup>. Painful swallowing may indicate that the foreign body is lodged in the esophagus<sup>6)</sup>. When the material has no sharp edges and

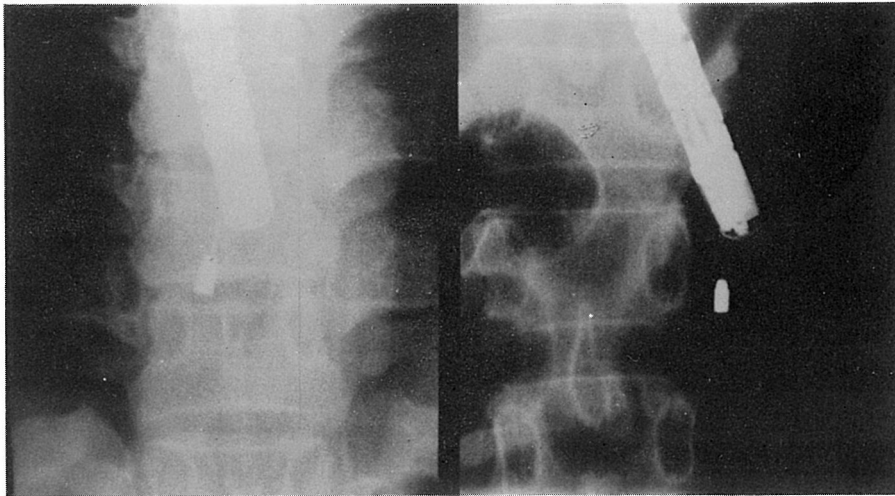


Fig. 2 Case 2. The reamer in the stomach was removed with fiberscopy five hours after the accident.

passes in the stomach, we allow it to pass through the gastrointestinal tract and wait spontaneous discharge in stool. Emema or purgative should be avoided. A careful observation of the patient is necessary to detect symptoms of peritonitis, especially when the patient complains chill, fever and abdominal pain. X-ray examination should be made every four or five days. If a foreign body has a sharp edge, the patient should be sent immediately to a competent bronchoesophagologist for its removal from the esophagus or stomach<sup>7)</sup> as in the 2nd case. The rubber dam should be always placed when a small hand instrument is employed for endodontic therapy. When the patient swallowed a foreign body into the stomach during dental treatment, removal with gastroscopy is recommended without much expectation of spontaneous discharge because recent improvement of fiberscopic technique and safety of this maneuver.

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