
Endoscopic Removal of a Toothbrush Using Biopsy Forceps and Thread

Although there have been many reports concerning the endoscopic removal of foreign bodies, there have been few describing patients who have swallowed toothbrushes (1,2). Here we describe one such patient, who was treated endoscopically by a new procedure using biopsy forceps and a thread.

A 47-year-old woman with schizophrenia was examined by gastrointestinal endoscopy, which revealed swallowed toothbrushes in her stomach. Two of the brushes, the heads of which were located on the oral side, were removed easily using a rat-tooth forceps to grasp the brush-head. However, since the handle of the third one,

located on the oral side, was slippery, it kept sliding down at the esophagogastric junction when attempts were made to retrieve it using the same type of forceps, a snare, or a stone-retrieval basket. Since the brush could not be turned in the stomach, we carried out an endoscopic removal using biopsy forceps, with a thread about 5 cm long tied to the forceps neck (Figure 1a). After the thread had been grasped, the forceps was inserted endoscopically. The thread was pushed through a hole in the handle of the toothbrush (Figure 1b) and retrieved (Figure 1c,d). Then, with gentle retraction, the brush was withdrawn into an overtube following the endoscope. When the toothbrush was in the esophagus,

an assistant unintentionally released the thread (Figure 2a). We performed the same procedures again, and the toothbrush was removed without further complication (Figure 2b).

This method does not require any special techniques or devices, and can be performed easily. Since there is no risk of slippage, it may be useful for retrieving other foreign bodies that have holes, such as rings or buttons. However, for the sake of stability, and to avoid scratching injuries, an overtube should be used, and the indications for the technique must be carefully assessed. In addition, an appropriate length of thread has to be regrasped to allow the foreign body to be moved without restriction.

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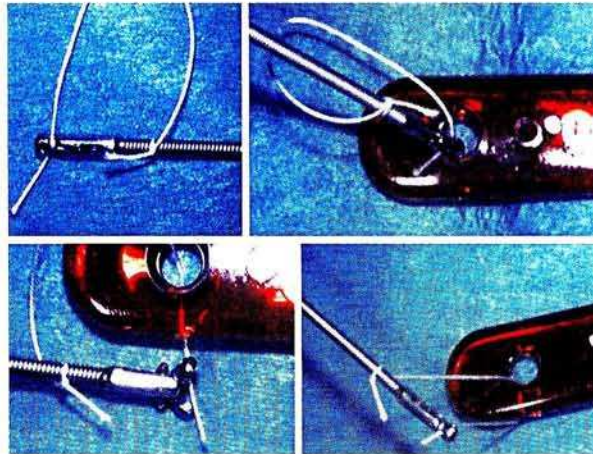


Figure 1 a–d: Using biopsy forceps and thread to grasp the toothbrush.

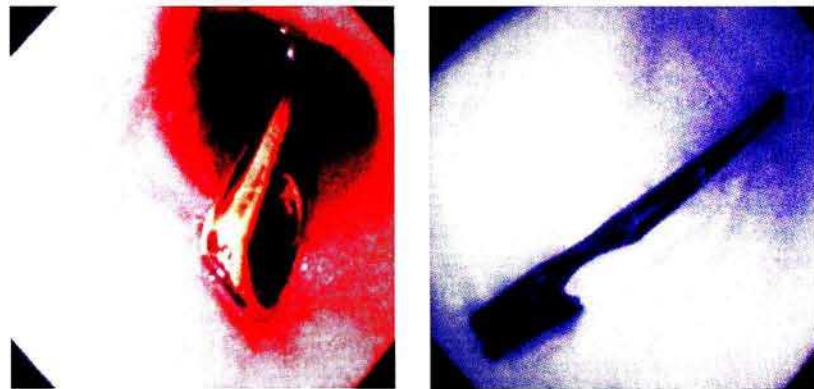


Figure 2: Endoscopic view of the toothbrush in the esophagus (a) and after removal (b).