Safe endoscopic removal of a swallowed partial denture with a grip-seal plastic bag

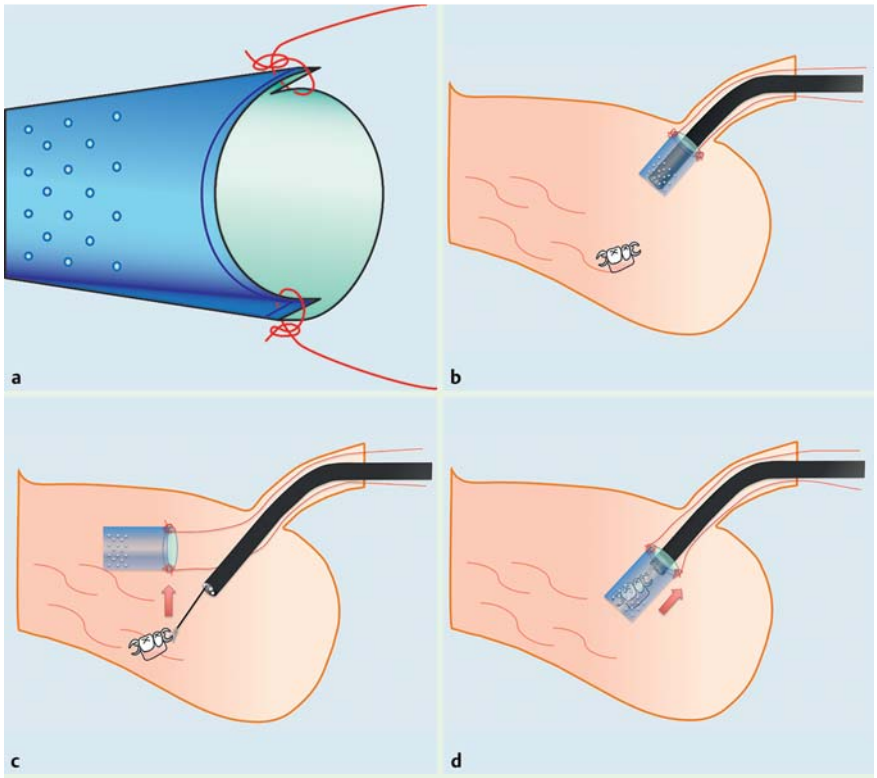

Fig. 1 **a** A small grip-seal plastic bag is prepared for use in the removal of a swallowed partial denture. **b** The endoscope is inserted, with the end covered by the plastic bag, through an overtube. **c** The partial denture is grasped and placed in the bag. **d** The bag is removed by pulling on the nylon threads, which are outside the patient, along with the endoscope.

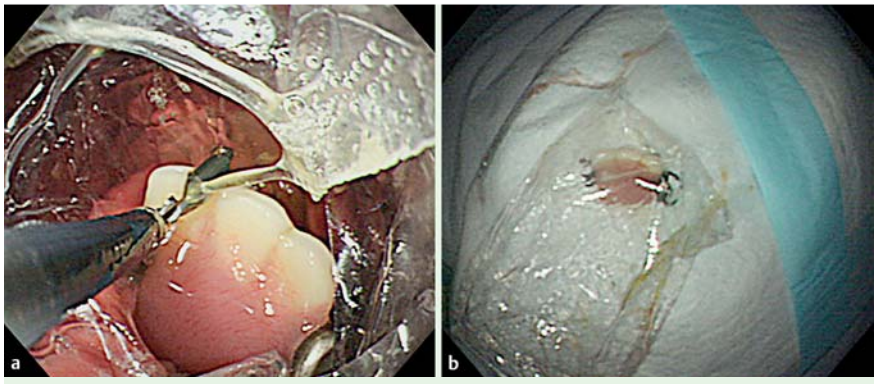

Fig. 2 **a** Endoscopic view of the removal of a swallowed partial denture with a small grip-seal plastic bag. The partial denture is placed into the bag with an alligator forceps. **b** The partial denture (38 × 20 mm) is completely covered by the bag and removed.

The accidental ingestion of foreign bodies is becoming more frequent in an aging population. Sharp foreign bodies in the upper gastrointestinal tract should be removed as soon as possible to avoid perforation [1]. Various methods of removal have been reported, in which an overtube, a distal attachment, polypectomy snares, baskets, nets, or forceps have been used [2]. However, each of these methods has associated problems. We report a new method for the safe removal of a swallowed partial denture from the stomach.

We use a small grip-seal plastic bag (10 × 5 cm), cutting off unnecessary parts of the bag and puncturing the bag with an 18-gauge needle to allow venting. To dilate the opening of the bag, each side of the edge is folded into a Z-shape by passing a nylon thread (100 cm) and tying it (**Fig. 1 a**). Then, the scope is inserted, with the tip covered by the bag, through an overtube (**Fig. 1 b**). In the stomach, an alligator forceps is passed through the scope to move the bag so that it does not cover the endoscope tip. The partial denture is then grasped and placed into the bag with the alligator forceps (**Fig. 1 c**). The bag is removed from the patient, together with the endoscope, by pulling on the nylon threads (**Fig. 1 d**). Covering the sharp portion of the denture completely with the bag prevents mucosal injury or perforation. We have successfully used this method to remove dentures in four consecutive patients without complications (**Fig. 2**, **Video 1**).

The use of a small grip-seal plastic bag to remove a swallowed denture from the stomach is simple, effective, and safe. The method can also be applied for the removal of other sharp foreign bodies, such as needles and press-through packs, or large resected specimens after endoscopic submucosal dissection.

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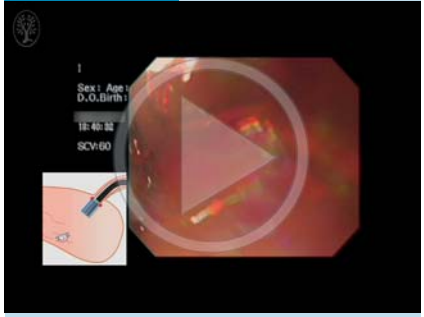
Competing interests: Author Hironori Yamamoto has a consultant relationship in FUJIFILM Corporation and has received honoraria, grants and royalties from the company.
The other authors declare no Conflict of Interests for this article.

Video 1



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Bibliography
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