

Tube-assisted suction: a novel technique for removing massive food residue during gastroscopy



► **Fig. 1** Massive food residue in the lower esophagus despite sufficient fasting.



► **Fig. 3** A clear field, free from food residue, was achieved with the suction device.



► **Fig. 2** A soft, plastic tube was tied along the side of the scope.



► **Video 1** Tube-assisted suction for the removal of massive food residue during gastroscopy.

A 44-year-old man with achalasia was scheduled to undergo peroral endoscopic myotomy for recurrence after Heller myotomy. Massive food residue was observed in the lower esophagus, despite repeated and adequate fasting (► **Fig. 1**). Repeated irrigation and suction by the endoscope (GIF-Q260; Olympus, Tokyo, Japan) failed to remove the food residue. Grasping forceps (basket type, FG-16L-1; Olympus) did not work either. Therefore, tube-assisted suction was performed (► **Video 1**).

A soft, plastic tube (outer diameter 5 mm) with several side apertures was tied along the side of the scope. The head of the tube

was positioned approximately 3 mm beyond the tip of the scope (► **Fig. 2**). The other end of the tube was connected to a vacuum extractor. Then, the scope with the attached tube was inserted smoothly. When the food residue was observed, irrigating and suction were continued until no food residue remained. Eventually, a clear field was achieved (► **Fig. 3**).

Patients who undergo endoscopy after gastric surgery usually have some food residue [1–3], similarly to patients with achalasia, which interferes with endoscopic observation and detection of lesions [2]. No specific method has been reported to remove massive food residue during gastroscopy. Patient preparation for the day before the endoscopic procedures is emphasized: sufficient fasting

time (more than 18 hours) [3] and a liquid diet plus gastrokinetic agents (i. e. cispripride, domperidone, and aclatonium napadisilate) [2]. However, attempts to obtain a satisfactory field may still end in failure. Tube-assisted suction is a novel technique to solve this problem. The tube is a common vacuum suction tube that is available in most medical institutions. This technique minimizes discomfort resulted from repeated fasting. Furthermore, use of this simple addition may avoid a delay in emergency endoscopic treatment or having to postpone treatment.

In conclusion, we believe that tube-assisted suction is an effective, simple, and timesaving way for removing massive food residue.

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Competing interests

None

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