Successful removal from the esophagus of a self-expandable metal stent that had shriveled up into a tangled ball

A 39-year-old woman developed a leak from the cardia following a sleeve gastrectomy. She underwent placement of an 18-cm Niti-S covered esophageal self-expandable metal stent (SEMS; TaeWoong Medical, Gimpo, Korea) at the gastroesophageal junction (Fig. 1 a).

The patient returned to undergo stent removal 4 weeks after its placement. During this procedure the lasso stitch at the distal end was grasped with endoscopic foreign-body forceps and was pulled (Fig. 1 b). The stent began to invaginate from within but soon shrunk into a tangled ball of metal wires (Fig. 1 c and Fig. 2). The distal lasso stitch slipped out of the forceps, leaving the now compacted SEMS lying in the mid-esophagus and completely obstructing the lumen.

The SEMS was gradually eased away from the esophageal mucosa using the proximal lasso stitch. The disjointed mesh wires were slowly pulled off the mucosa, and thereby the whole of the stent was successfully removed under fluoroscopic guidance (Fig. 3). Endoscopy confirmed the absence of any esophageal injury, but persistence of the original leak was noted. An over-the-scope clip (OTSC) was used to obliterate the leak (Fig. 4).

Fracture of an esophageal SEMS has been previously described, during positioning because of defective material and as a consequence of laser therapy that caused a late spontaneous fracture during palliative treatment [1]. It appears that corrosion is the principal cause of fracture because, once in place and fully expanded, SEMS are not subject to any great mechanical
stress [2]. Cases of fracture during removal of a covered biliary SEMS have also been described [3].

Here we report the first case, to our knowledge, of a covered SEMS compacting into a ball at the time of removal and its successful retrieval. We believe that this happened probably because the SEMS was partially fractured and became deeply embedded in the esophageal mucosa; when traction was applied, the now-damaged mesh contracted in on itself because of the inherent forces in its structure. The risk of a SEMS curling up should be considered as a potential complication of SEMS removal, in addition to other well-documented complications [4].

Competing interests: None

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