Removal of embedded uncovered duodenal stent after 8-month indwelling

Fig. 1 Uncovered duodenal Wallflex stent and partly covered Hanarostent, in place and completely unobstructed.

Fig. 2 Wallflex mesh completely embedded in the duodenal wall

Fig. 3 Metallic wires of the Wallflex stent (red arrow) are still embedded in the duodenal wall, preventing removal of the stent.

Uncovered self-expandable metallic stents (SEMSs) are used to treat malignant obstruction. Removal of SEMSs using scissor forceps, a loop cutter, and the wire-loop technique has been reported anecdotally [1,2]. Argon plasma coagulation (APC) is mainly used for trimming SEMSs, but is not used to attempt removal because of the risk of injury to the duodenal mucosa [3,4].

We report a case of a 60-year-old man who 8 months previously had undergone placement of a duodenal stent (length 12 cm, Wallflex; Boston Scientific, Marlborough, Massachusetts, USA), and of a second stent 1 week later (11 cm, partially covered, Hanarostent; M.I. Tech, Seoul, South Korea). This was done for neoplastic complete stenosis of the duodenum with other metastatic lesions also

detected at computed tomography (CT) scan. Biopsies at the time of stent placement showed lymphoma in complete remission following chemotherapy. We decided to attempt removal of the stents. Both stents were found to be in place and completely unobstructed (● Fig. 1). The inner stent was removed in multiple pieces, using a standard foreign-body forceps. The Wallflex stent was completely embedded in the duodenal wall in at least in two areas (the pyloric area and the superior flexure) (● Fig. 2). APC was used to destroy overgrowth tissue. Then the distal part of the SEMS was grasped and pulled with a rat-tooth forceps, since fluoroscopy showed that some parts were still embedded in the duodenal wall (● Fig. 3). Overlying mucosal tissue was destroyed using APC and the SEMS was easily withdrawn, as a tangled ball of metal wires (● Video 1, ● Fig. 4). Endoscopic checking showed no complications. The patient left hospital the following day, taking a normal diet, and continues to do well.

In conclusion we showed that in expert hands APC can be used safely, without leading to injury of the duodenal wall, in order to destroy overgrowth tissue that is retaining an uncovered stent, prior to removal of the stent. In any case, we strongly recommend that positive findings of malignancy at biopsy are mandatory before placement of uncovered stents.

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Fig. 4 The Wallflex has been completely removed, shriveled up into a tangle of metal wire.

References

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Video 1

Argon plasma coagulation (APC) is used to destroy duodenal mucosal tissue that is retaining parts of the mesh of a self-expandable metallic stent (SEMS). The stent is then removed.

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