Over-the-scope clips for transoral gastric outlet reduction as salvage therapy for weight regain after Roux-en-Y gastric bypass

Fig. 1 Endoscopic view of a dilated gastrojejunal anastomosis in a 49-year-old man, despite prior attempts at reduction using flexible endoscopic suturing. Roux-en-Y gastric bypass had been done 3 years previously.

A 49-year-old man was referred for management of weight regain 3 years after Roux-en-Y gastric bypass (RYGB) surgery. He had gained 14 kg in weight in the previous 6 months. Upper endoscopy revealed a 35-mm gastrojejunal anastomosis. Three sessions of transoral gastric outlet reduction over 7 months using endoscopic suturing (OverStitch; Apollo Endosurgery, Austin, Texas, USA) had not resulted in any response. After discussion with the bariatric surgeon, it was decided that gastrojejunal anastomosis reduction using the “type t” over-the-scope clip (OTSC) (Ovesco AG, Tubingen, Germany) would be trialed before redo surgery [1].

Fig. 2 Transoral reduction of dilated gastrojejunal anastomosis using over-the-scope clips (OTSCs). **a** Twin grasping forceps being used to bring two edges of the outlet into close apposition prior to deployment of an OTSC. **b** Second OTSC deployed on the opposite side to the first, resulting in narrowing of the gastrojejunal anastomosis to approximately 10 mm in diameter.

At upper endoscopy, two suture remnants were seen (● **Fig. 1**) and the gastric outlet measured 30 mm in diameter. The anastomosis was treated aggressively with argon plasma coagulation at 35 W. A diagnostic gastroscope preloaded with a 12-mm OTSC was inserted. Using the twin graspers, the edges of the anastomosis were grasped at the 7-o'clock and 10-o'clock positions and, with the application of suction, the OTSC was deployed (● **Fig. 2a**). The process was repeated with a second OTSC but this time grasping the edges at the 2-o'clock and 5-o'clock positions (● **Fig. 2b**). The endoscope with cap removed was reinserted and was barely able to pass through the anastomosis indicating that it had been reduced to 10 mm in diameter. The procedure duration was 19 minutes and the patient was discharged home the same day, on a liquid diet for 2 weeks. An X-ray obtained 2 weeks after the procedure confirmed the optimal position of the OTSCs (● **Fig. 3**). The patient reported early satiety and weight loss of 9 kg at 3 months and an upper gastrointestinal series confirmed a persistently narrowed anastomosis (● **Fig. 4**). Weight regain after RYGB is noted in 20% to 35% of patients and dilation of the gastrojejunal anastomosis is a major determinant [2,3]. Currently, most centers perform gastrojejunal anastomotic reduction using flexible endoscopic suturing [4,5]. We report here a technique using OTSCs to reduce the gastric outlet in a patient with failure to respond to multiple ses-

Fig. 3 Fluoroscopic image taken 2 weeks after deployment of the two over-the-scope clips (OTSCs) to narrow the dilated gastrojejunal anastomosis.

Fig. 4 Fluoroscopic image taken during an upper gastrointestinal series demonstrating a narrowing at the gastrojejunal anastomosis. Two over-the-scope clips (OTSCs) had been deployed to reduce the size of the gastric outlet.

sions of endoscopic suturing. Although no comparative trials exist, the OTSC system may not only be a suitable alternative, but may even be faster and technically easier. A comparative trial of both techniques is of interest.

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