

Surgical workshop

Laparoscopic gastroplasty for morbid obesity

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Morbid obesity is a difficult problem. Dieting fails to cure many patients¹ and non-surgical techniques have a failure rate close to 100 per cent². Kuzmak's gastric banding technique is the least invasive operation for morbid obesity and has proven efficacy³. In this procedure the stomach is partitioned into a 25-ml proximal part and a distal larger portion comprising the body of the stomach. The partition is created by a silicone band with a deflatable device connected to a subcutaneous control system. This permits further adjustment of the 'stoma' after surgery by injection or withdrawal of saline. The present paper describes Kuzmak's gastric banding operation performed via a laparoscopic approach.

Surgical technique

Laparoscopic Kuzmak gastroplasty was performed on a 60-year-old woman of weight 100 kg and height 154 cm (body mass index 42 kg/m²). The surgeon stood between the patient's legs, with a first assistant to the left and a second to the right. Four cannulas (Ethicon, Somerville, New Jersey, USA) were distributed around a 15-cm cannula (US Surgical, Norwalk, Connecticut, USA) that was used for the 0° optical system and located 5 cm proximal to the umbilicus. A 5-mm cannula was placed in the right upper quadrant and one in the left anterior axillary line. A 10-mm cannula was sited in the left mid-clavicular line for dissection and suturing, and one below the xiphoid process to take the clip applicator and liver retractor.

A window was made in the most cephalad part of the gastro-splenic ligament. The lesser curvature was then dissected with the coagulating hook about 2 cm caudal from the cardia. A retrogastric tunnel joining both dissected areas was created by blunt dissection under direct vision, the stomach being held ventrally. A 25-ml balloon catheter with a pressure gauge at its tip was advanced through the mouth into the stomach and inflated. A silicone band (Inamed, Carpinteria, California, USA) was introduced intra-peritoneally, placed around the stomach at the level of dissection and tightened around the tip of the intragastric balloon catheter, until a pressure corresponding to 12-mm diameter was obtained. The band was sutured to itself (Fig. 1) using an intracorporeal knotting technique to fix its position; the redundant part was cut and removed. A stitch was placed between the serosa of the stomach just proximal and distal to the band to prevent slipping. The chamber connected to the silicone band was buried in the ventral rectus fascia, by slightly enlarging a cannula opening.

Oral intake was permitted from the first day after operation, by which time the patient was free to move about; she was discharged from hospital on the fifth day after surgery.

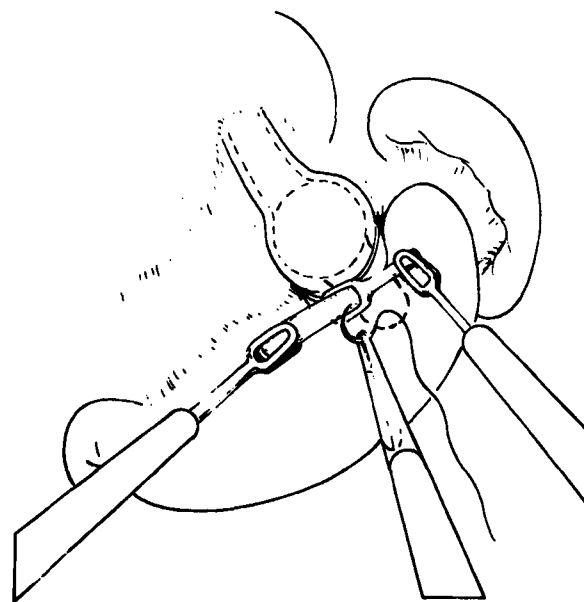


Fig. 1 The silicone gastric band has been tightened around the stomach and is being sutured. Note the intragastric balloon catheter with tip transducer; pressure readings permit accurate sizing of the 'stoma'

There were no complications. Physical examination after 3 months revealed weight loss of approximately 23 kg, which is similar to the results of the open procedure⁴.

Discussion

The fact that the integrity of the stomach is maintained and that the diameter of the gastric 'stoma' is adjustable presents an advantage over stapled vertical banded gastroplasty, where irreversible lesions are inflicted for an indication that some surgeons may question⁵. These advantages, in our opinion, outweigh the potential drawbacks that have been reported in a small number of patients such as difficulty with stoma size, band erosion and infusion port problems³. The laparoscopic approach combines minimal invasiveness with the reversibility and adjustability of Kuzmak's gastric partitioning, permitting rapid postoperative recovery in patients at increased operative risk.

References

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Editor's note: Readers are also referred to a closely related paper in the August 1994 issue (*Br J Surg* 1994; 81: 1169-70)