Stapled haemorrhoidectomy: a novel procedure

Shabbir Ashraf, Pankaj Srivastava, Michael J Hershman

Stapled haemorrhoidectomy is an effective procedure for symptomatic haemorrhoids with mucosal prolapse. The advantages over the conventional surgical technique include reduced postoperative pain, shorter hospital stay and earlier return to work.

Surgical haemorrhoidectomy has a reputation for being a painful procedure. This reputation in combination with the high prevalence of haemorrhoidal disease has generated much interest in outpatient procedures for symptomatic haemorrhoids. Band ligation, injection sclerotherapy and cryotherapy have been used with some success in dealing with the early stages of haemorrhoids (*Table 1*). However, surgery is the preferred definitive treatment for the management of third and fourth degree haemorrhoids.

The conventional surgical management of third and fourth degree haemorrhoids is by Milligan–Morgan haemorrhoidectomy (described in 1937) or one of its variations. Clinical experience and postoperative endoanal ultrasound have shown, however, that excision-ligation procedures as popularized by Milligan–Morgan can result in excruciating postoperative pain and long-term complications such as sphincter injury and anal stenosis.

STAPLED HAEMORRHOIDECTOMY

A new approach to the treatment of prolapsing haemorrhoids, first described by Longo (1998), although still in its infancy, is becoming increasingly used in the UK. The technique involves a transverse mucosal prolapsectomy at the anorectal junction with a circular stapler. This involves the interruption of the terminal branches of the superior haemorrhoidal arteries, resection of part of the prolapsed mucosa and lifting the mucosa up in the anal canal, thereby correcting the prolapse and reducing arterial inflow.

Preliminary data (Mehigan et al, 2000; Rowsell et al, 2000; Ganio et al, 2001) obtained are encouraging, featuring reduced postoperative pain, quick recovery and no adverse functional sequelae. In the short term, the circular stapler technique has been reported to be a significantly less painful alternative to Milligan–Morgan haemorrhoidectomy and is associated with an earlier return to normal activity.

TABLE 1.
Classification of internal haemorrhoids

	Prolapse	Reducibility
First degree	No	–
Second degree	Yes	Spontaneous
Third degree	Yes	Manually
Fourth degree	Yes	No

PATIENT SELECTION

All patients undergo proctoscopy. Colonoscopy and/or barium enema are carried out in patients where there is a suspicion of a coexisting proximal colonic pathology. All patients with symptomatic prolapsing haemorrhoids (third and fourth degree) are suitable for this technique (*Figures 1*

Figure 1. Preoperative state. Note prolapse of haemorrhoidal cushion and mucosa.

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Figure 2. Postoperative result with evident mucosal and anodermal lifting.

and *2*). A phosphate enema is given on the morning of surgery. Stapled haemorrhoidopexy is contraindicated in concomitance with anal fistula, abscess, gangrene, anal stenosis, full thickness rectal prolapse and in patients with coagulation disorders.

PATIENT POSITION AND CHOICE OF ANAESTHESIA

Although some surgeons prefer the prone jackknife position, the lithotomy position is usually used in the UK. Apart from the distinct advantage in terms of anaesthesia and the patient's comfort, the lithotomy position provides for the optimal evaluation of the prolapse and of the surgical outcome. The technique is usually performed under general anaesthesia but locoregional or local anaesthesia can be used.

OPERATIVE TECHNIQUE

The instruments used for this procedure are shown in *Figure 3*. The introduction of the circular anal dilator (CAD) (*Figure 4*) causes the reduction of the prolapse of the anoderma and parts of the anal mucous membrane. After removing the obturator, the prolapsed mucous membrane falls into the lumen of CAD. For greater safety, the CAD can be fixed to the perineum by two stitches at 12 and 6 o'clock or by atraumatic forceps. The purse-string suture anoscope (PSA) (*Figure 5*) is introduced through the CAD. By rotating the PSA it is possible to carry out a purse-string suture around the entire anal circumference. This suture has to be carried out at least 5 cm distal from the dentate line, the distance being increased in proportion to the degree of prolapse.

The haemorrhoidal circular stapler (*Figure 6*) is opened to its maximum position. Its head is introduced and positioned proximal to the purse-string, which is then tied with a closing knot. With the help of the suture threader, the ends of the threads are pulled through the lateral holes of the HCS. The ends of the threads

Figure 3. Procedure for prolapsing haemorrhoids stapled haemorrhoidopexy kit. 1. 33 mm haemorrhoidal circular stapler (HCS 33). 2. Purse-string suture anoscope (PSA 33). 3. Circular anal dilator and obturator (CAD 33). 4. Suture threader (ST100).

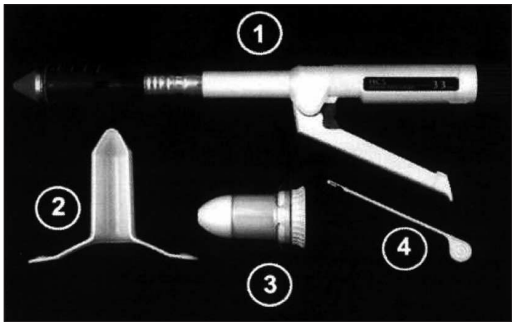


Figure 4. Introduction of the circular anal dilator and removal of the obturator, causing the prolapsed mucous membrane to fall into the lumen of the circular anal dilator.

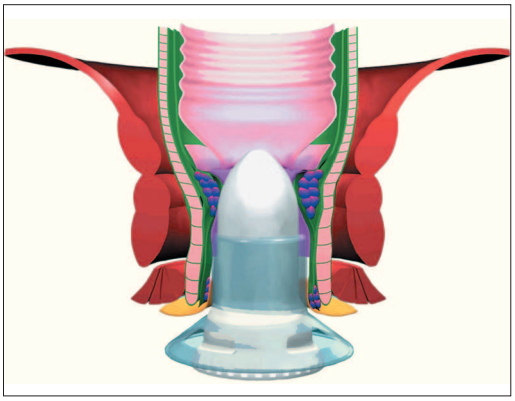
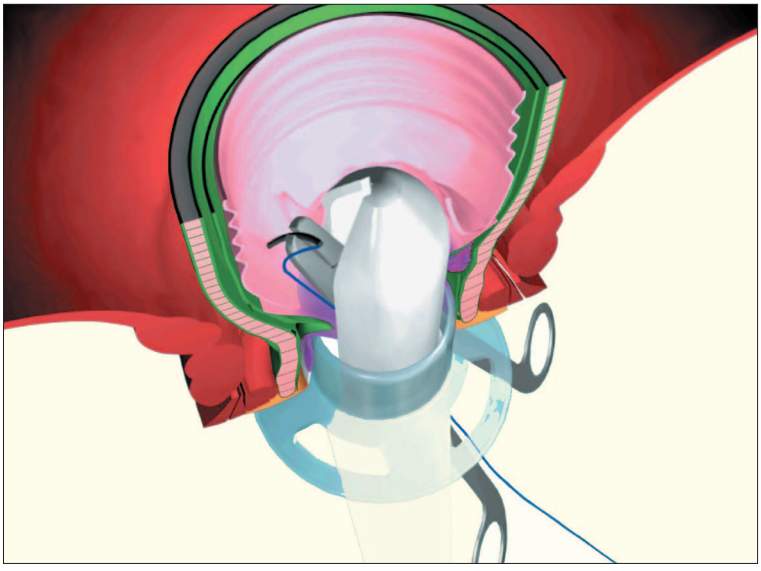


Figure 5. The purse-string suture anoscope is introduced through the circular anal dilator.



are knotted externally or fixed using forceps (*Figure 7*). The entire casing of the HCS is introduced into the anal canal. During the introduction, it is advisable to partially tighten the stapler.

With a moderate traction of the purse-string (*Figure 8*), the prolapsed mucous membrane is drawn into the casing. The tightening of the HCS is completed and the stapling of the prolapse is carried out. Allowing the instrument to remain in the closed position for 20 seconds after firing acts as a tamponade and may enhance haemostasis. Having opened the HCS a little (*Figure 9*), the extraction of the head

Figure 6. The haemorrhoidal circular stapler is opened to its maximum position, its head is introduced and positioned proximal to the purse-string, which is then tied with a closing knot. With the help of the suture threader, the ends of the threads are pulled through the lateral holes of the haemorrhoidal circular stapler.

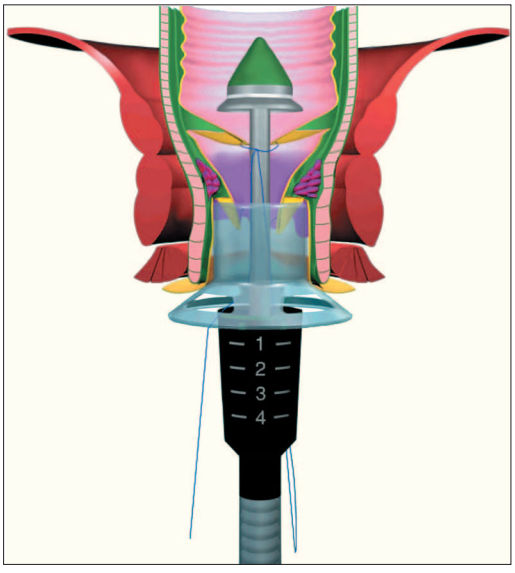


Figure 7. The ends of the threads are knotted externally or fixed using forceps, and the haemorrhoidal circular stapler casing is introduced into the anal canal.

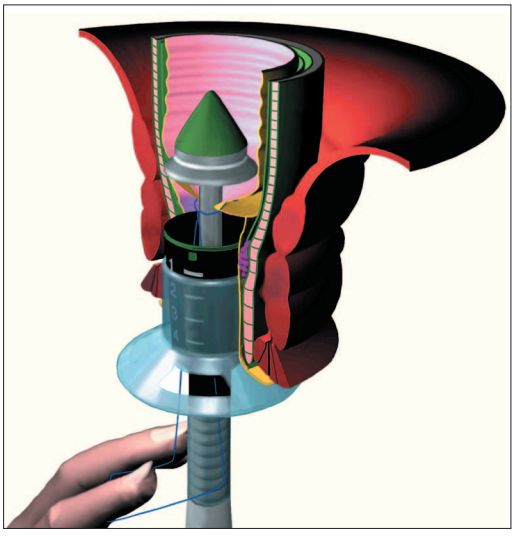


Figure 8. With moderate traction the prolapsed mucous membrane is drawn into the casing. The haemorrhoidal circular stapler is tightened and the prolapse is stapled.

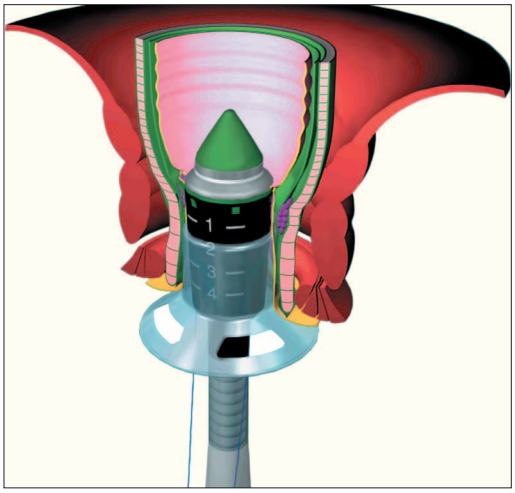


Figure 9. Having opened the haemorrhoidal circular stapler, the extraction of the head should be checked and the dilator and stapler extracted simultaneously. The staple line is then examined using the purse-string suture anoscope.

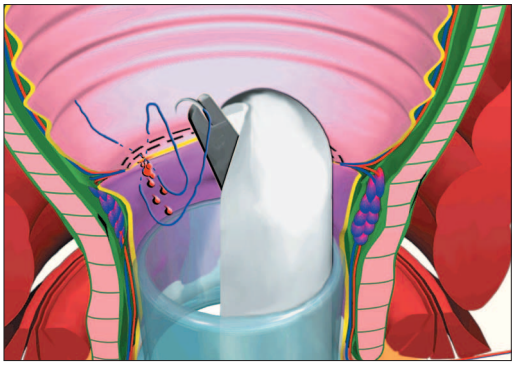
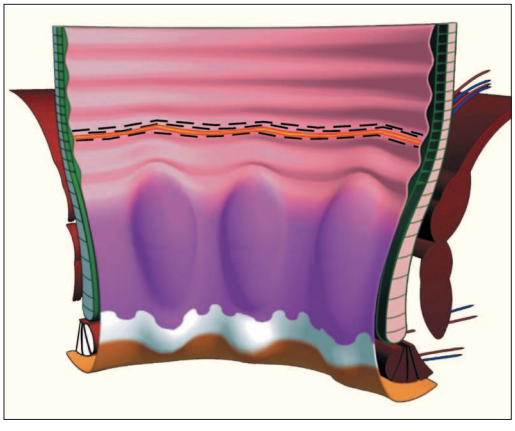


Figure 10. On completion, the staple line should lie 2–3 cm above the dentate line.



should be checked. Thereafter, the CAD and HCS should be extracted simultaneously. Following this, the staple line is examined using the PSA, which enables the addition of stitches if needed. On completion, the staple line should lie 2–3 cm above the dentate line (*Figure 10*). Analgesic as a suppository along with a gelatin sponge is inserted in the anal canal.

POSTOPERATIVE MANAGEMENT

Early mobilization is encouraged. Postoperatively, a laxative and non-constipatory oral analgesic is given, which should be continued until the passage of stool is no longer uncomfortable. Following standard day-case guidelines, same day discharge is encouraged. Patients should be warned to expect passage of staples at stool over the following month.

DISCUSSION

Stapled haemorrhoidectomy is a safe and straightforward alternative to excision-ligation procedures for the management of prolapsing haemorrhoids and mucosal prolapse. The majority of patients can be treated on a day-case basis and many return to normal activity within a few days. Studies have demonstrated reduced pain and faster return to normal activities using this technique (Fazio, 2000; Seow-Choen, 2001; Beattie et al, 2002). The significant issues of equipment costs for the procedure are largely offset by the wider economic benefits of reduced inpatient stay and earlier return to work.

Staple line stenosis has been reported in cases where an inadequate width of mucosa was resected (Beattie and Loudon, 2000; Beattie et al, 2000). This is less of a problem with the purpose designed procedure for prolapsing haemorrhoids device which resects up to 3 cm of mucosa. In the event of staple line stenosis, treatment is by simple proctoscopic dilatation as an outpatient. Occasionally small iatrogenic fissures can result from the insertion of the anal obturator and retractor. Intra- and postoperative application of 0.2% glyceryl trinitrate ointment should result in rapid healing of this.

CONCLUSION

Stapled haemorrhoidectomy is a safe, acceptable and effective method of routine day-case haemorrhoid surgery. However, more prospective randomized controlled trials are required comparing the conventional haemorrhoidectomy with stapled haemorrhoidectomy before its widespread acceptance as a validated technique. HM

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Further reading

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KEY POINTS

- Symptomatic haemorrhoids are very common.
- Stapled haemorrhoidectomy is a safe alternative to conventional surgery for symptomatic third and fourth degree haemorrhoids.
- There is no or little postoperative pain and the procedure can be safely performed as a day case surgery.
- Complications are infrequent and minor, and usually dealt conservatively.
- Postoperative results are aesthetically good.