Stapled haemorrhoidopexy: Is it time to move on?

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ABSTRACT

Stapled haemorrhoidectomy was proposed as an 'ideal' solution for symptomatic haemorrhoids, with minimal postoperative pain, no perianal wound requiring postoperative wound care and a relatively short operative time. Some randomised controlled trials and reviews confirmed these findings, claiming that stapled haemorrhoidopexy is the most effective and safe procedure for haemorrhoids. However, there are increasing number of publications highlighting that the technique is associated with serious and life threatening complications. Maybe it is now the time to accept that stapled haemorrhoidopexy has done its role in directing our attention to the fact that modern surgical treatment of haemorrhoids should avoid excision of anorectal skin but should instead aim at treatment intervention above the dentate line.

KEYWORDS

Stapled haemorrhoidopexy – Complications – Outcome

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'Primum non nocere.' (*'First, do no harm.'*)

This axiom remains one of the most fundamental principles we teach our students and aspire to achieve in our everyday practice.¹ In surgery, however, the risk in inflicting harm is linked inevitably with most, if not all, the procedures we perform. It is therefore our duty to our patients to offer them effective surgical procedures to relieve their symptoms but that would not leave them any worse. While it might be acceptable to have a high risk of serious complications in surgical treatment of certain life threatening medical conditions, it would be extremely difficult to justify this, no matter how rare these serious complications are, when managing benign disease such as haemorrhoids.

It is interesting to note that there is hardly any agreement on what should be the 'ideal' treatment of haemorrhoids² despite the fact that mankind has known the disease for centuries and treatment attempts have been recorded as early as 1700BC in Egyptian papyrus. Hippocrates (460BC) suggested intervention that is comparable with the current rubber band ligation, Celcus (25BC–AD14) recommended ligation and excision while Galen (AD131–201) proposed severing the connection of the arteries to the veins.²

The modern era in haemorrhoid treatment was started by the founder of St Mark's Hospital, Fredrick Salmon, in 1888 when he proposed a combination of excision and ligation of haemorrhoids by incising the perianal skin, dissecting the haemorrhoidal plexus with ligation of the haemorrhoid pedicle. Following this, the technique has seen several modifications, including the Ferguson method, the Milligan–Morgan technique and diathermy haemorrhoidectomy,² in an attempt to reduce the associated postoperative pain with a limited degree of success.^{3,4}

In 1998 Longo proposed what sounded, at the time, like an ideal solution: a procedure for haemorrhoidectomy with minimal postoperative pain, no perianal wound requiring postoperative wound care and a relatively short operative time.⁵ His technique presented a new notion for treating haemorrhoids as he proposed circumferential rectal mucosectomy that results in mucosal lifting (anopexy). His aim was not excision of the haemorrhoidal tissue but rather restoring anatomical and physiological aspects of the haemorrhoidal plexus.⁶

As early as 2001, there were several studies to confirm that stapled haemorrhoidopexy is a safe procedure that is associated with a shorter operative time, less postoperative pain, a shorter hospital stay and a quicker return to normal activities compared with standard haemorrhoidectomy.⁷ Several subsequent randomised controlled trials and reviews confirmed these findings, with some studies claiming that stapled haemorrhoidopexy is the most effective and safe procedure for haemorrhoids.⁸ Driven by this early success and the expected interest in new procedures that might reduce postoperative pain associated with excisional surgery, stapled haemorrhoidopexy has gained rapid popularity⁹ with a reputation as a safe and effective alternative surgical approach to treat haemorrhoids in many centres.¹⁰

However, critical reflection on the available literature does not entirely support this (Table 1) as other publications have revealed that the technique is associated with serious and life threatening complications including bleeding, staple line haematoma, presacral haematoma, rectovaginal fistula, perineal sepsis, rectal necrosis, deficient staple line, rectal perforation and complete obliteration of the rectal lumen.^{11,12} There are also some reports of

Table 1 Reported complications of stapled haemorrhoidopexy**Early**

Bleeding
 Staple line haematoma
 Presacral haematoma
 Perineal sepsis
 Rectovaginal fistula
 Deficient staple line
 Anastomotic dehiscence
 Rectal perforation
 Rectal necrosis
 Complete obliteration of the rectal lumen
 Death

Late

Chronic anal pain
 Reduced rectal distensibility
 Symptoms of obstructed defecation
 Incontinence
 Recurrence

unique complications such as submucous cysts at the staple line, keloid formation at the staple line causing anal stenosis and reduced rectal distensibility as well as occasional debilitating symptoms of obstructed defecation due to stenosis at the anastomotic staple line with a resultant ball valve effect.

It has been suggested that the ideal treatment of haemorrhoids should be minimally invasive, painless, safe and effective with minimal cost.⁶ On critical analysis of the available literature, it could be argued that stapled haemorrhoidopexy does not meet any of these criteria.

It would be difficult to support the notion that stapled haemorrhoidopexy is minimally invasive as the technique is rather invasive compared with other treatment options.² Furthermore, it is difficult to accept the claims that the procedure is associated with better patient experience due to reduced early postoperative pain as even though there are improved pain scores in the early postoperative period,¹⁵ this is clearly offset by the fact that a subgroup of patients end up with chronic anal pain that is difficult to treat.¹⁴ After stapled haemorrhoidopexy, the incidence of chronic anal pain ranges from 1.6% to 31% in the few studies reporting this complication.¹⁴

Moreover, when analysing the available literature, it is ironic to see the vast number of publications that claim that the technique is safe despite the available reports of serious and life threatening complications^{10–12,15,16} as well as reports that the technique was abandoned in major colorectal institutions because of safety concerns.¹⁷ Serious complications such as anorectal stricture and anastomotic dehiscence have been reported even with surgeons who have extensive experience with the technique.¹⁰

Stapled haemorrhoidopexy is not more effective in preventing recurrent haemorrhoidal disease than excision haemorrhoidopexy^{15,18} or newer treatment options such as Doppler guided transanal haemorrhoidal artery ligation.⁶

A meta-analysis of 1,200 patients with a minimal follow-up duration of 12 months demonstrated that long-term outcomes showed a significant increase in recurrent prolapse after stapled haemorrhoidopexy versus conventional haemorrhoidectomy, evident for all degrees of haemorrhoids.¹⁵ The incidence of recurrences among studies varied from 0% to 53.3%.¹⁵ Lastly, stapled haemorrhoidopexy is less cost effective than other treatment options.⁶

Although rare serious complications have been reported with all treatment options for haemorrhoids,¹⁹ no other haemorrhoid procedure is associated with such a combination of serious complications similar to those for stapled haemorrhoidopexy.^{11,12,14–17,19} Of more concern is the tendency for underreporting such serious complications, which is demonstrated by Naldini, who found 46 serious unusual and life threatening complications by writing to surgeons who perform the procedure at 23 units in Italy.¹² This indicates that many of these complications go unreported. It could be that Naldini's paper only represents the 'tip of the iceberg' as there is no definite proof that all surgeons who perform the procedure responded and, if they did, that they reported every serious complication they had as this is a well known limitation for a retrospective study.

If Naldini had not taken this initiative,¹² we would not have become aware of this series of serious complications. It is possible that surgeons in other countries have experienced similar complications but that they have never had the chance, or interest, to report them because major journals are increasingly reluctant to consider individual case reports for publication.

Interestingly, between 2000 and 2009, there were 40 published cases in the literature of rectal perforation following stapled haemorrhoidopexy. Thirty-five patients required a laparotomy with faecal diversion and one patient was treated by low anterior resection. Despite surgical treatment and resuscitation, there were four deaths.¹⁶ Undoubtedly, there are other similar cases that have not been reported for various reasons, including reporting bias. These findings cast serious concerns on the safety profile for a procedure that is offered for benign disease with so many other treatment options available that would not have such risk.²

There is definite evidence that stapled haemorrhoidopexy results in resection of part of the stratified squamous mucosa and the internal anal sphincter in a significant proportion of patients.¹⁵ With our increasing awareness of the importance of the internal sphincter in maintaining faecal continence, this adds to the concerns about the complication profile of this procedure.²⁰ Incontinence has been reported in 0–28% of patients after stapled haemorrhoidectomy.²¹ However, there is limited information on the rate of faecal incontinence following the procedure, with conflicting evidence. Some studies claim no effect on faecal incontinence²² whereas others show that at medium-term follow-up after the procedure, 4.5% of patients suffer from persistent urge incontinence.²³ As the procedure is relatively new, there are no available data on the risk of incontinence when these patients reach their sixth or seventh decade, which is another concern as it is known that anal sphincter function deteriorates with age.²⁴

As discussed earlier, supporters of stapled haemorrhoidopexy claim that the procedure does not aim to excise the haemorrhoidal tissue but rather to restore the anatomical and physiological aspects of the haemorrhoidal plexus.⁵ Nevertheless, they stop short of presenting any firm evidence to confirm this actually happens and, if it does, how long it would last. Finally, even if there were some evidence to support this, are the associated risks justified? Various reports confirm that there is a significantly higher reoperation rate for recurrence after stapled haemorrhoidopexy than for excision haemorrhoidectomy.⁹

It could be argued that this paper is a non-balanced review focusing solely on the 'dark side' of stapled haemorrhoidopexy. However, I can see little justification for endorsing a procedure with such a 'dark side' that encompasses a rather serious profile of complications even if these complications were rare. Moreover, it would be difficult to continue to support stapled haemorrhoidopexy as a treatment option for haemorrhoids as this would defy one of the oldest and basic principles of medical practice: 'First, do no harm.'

Even though there have been reports of serious complications associated with all forms of intervention for haemorrhoids over the years,¹⁹ there is no treatment modality that is associated with such a combination of serious and life threatening complications similar to those reported with stapled haemorrhoidopexy¹² despite it being a relatively new procedure. Even though they are rare, these complications are difficult to justify when dealing with a benign, non-life threatening condition. Interestingly, none of the published literature elaborates on the consent process and whether patients were informed of these serious, albeit rare, complications. It would be even more interesting to see the percentage of patients who will decline consent and opt for other procedures, even though these might be associated with increased early postoperative pain, once they have been informed of the rare risks associated with stapled haemorrhoidopexy.

This argument is even more robust in the presence of alternative treatment options that are associated with at least equivalent, if not better, postoperative outcomes with no reported serious postoperative complications. The only proclaimed advantage for stapled haemorrhoidopexy of reduced early postoperative pain is not supported any more as Doppler guided transanal haemorrhoidal artery ligation has reduced postoperative pain scores (though not significantly) compared with stapled haemorrhoidopexy.⁶ Critical analysis of the literature confirms that there is no advantage for stapled haemorrhoidopexy that cannot be offered by other techniques.

Maybe it is now time to adopt a more 'tailored approach' in the treatment of haemorrhoidal disease? Patients with bleeding only could be offered Doppler guided transanal haemorrhoidal artery ligation as this would be successful in addressing their symptoms, those with anal skin tags or external haemorrhoids could be treated by excision and those with prolapsed haemorrhoidal tissue should ideally be offered a 'pexy' procedure. While stapled haemorrhoidopexy is currently offered for those patients, transanal

haemorrhoid dearterialisation combined with suture 'pexy' could be a much safer option.

Conclusions

It may now be time to accept that stapled haemorrhoidopexy has done its role in directing our attention to the fact that modern surgical treatment of haemorrhoids should avoid excision of anorectal skin, which is the main contributor to the postoperative pain associated with standard haemorrhoidopexy, but that we should instead aim at treatment intervention above the dentate line. We should now move on to the next step in our quest to find the ideal treatment for one of the oldest medical conditions known.

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