

Stapled Hemorrhoidopexy. Indications in 2021

Pablo Piccinini, Nicolas Avellaneda, Augusto Carrie
Instituto Universitario CEMIC (Unidad Patología Orificial). CABA, Argentina.

As a historical review, Antonio Longo in 1998 was the first surgeon who made reference to the stapled hemorrhoidopexy, describing it at that time as "an ideal solution with minimal postoperative pain, without anal wound and with minimal operative time".¹ The objective of the surgery was not excising the hemorrhoidal tissue, but to restore the anatomy and physiology of the hemorrhoidal plexuses.

In 2003, a consensus of experts on this technique met and determined the indications for this surgery.²

- Grade III hemorrhoids.
- Uncomplicated grade IV hemorrhoids that can be reduced during surgery.
- Grade II hemorrhoids (selected cases).
- Failure of other surgical techniques (eg, rubber band ligation) to relieve symptoms associated with hemorrhoids.

In turn, this consensus established the contraindications for this surgery (abscess, gangrene, anal stenosis, full-thickness rectal prolapse).

During the first years after the first publication, many published studies concluded in favor of this technique, highlighting among its advantages the significant reduction in postoperative pain, the reduction in hospital stay and bleeding, in addition to the rapid return to normal activities in comparison with conventional hemorrhoidectomy.³ Some studies even postulated suture hemorrhoidopexy as the "most effective and safest technique in the treatment of hemorrhoids".⁴

Today, 22 years after Dr. Longo's manuscript, this technique has spread throughout the world in many cases (such as the undersigned) thanks to Dr. Longo's own personal teaching and also from surgeon to surgeon. Although the technique itself has not undergone major changes, some considerations that have been made since then should be taken into account.

First, although the indications are officially similar, today there seems to be a certain consensus in not indicating this surgery for grade II hemorrhoids that can be resolved mostly with rubber band ligation.⁵ It is still indicated for grade III-IV hemorrhoids. It is ideal in cases with a circumferential component and preferably with lit-

tle external component, although the latter is not an absolute contraindication since the procedure itself often ends up reducing said component.

Second, some studies have emphasized that this technique has a higher risk of major complications compared to conventional hemorrhoidectomy. Profuse bleeding from the suture line, hematomas, rectal vaginal fistulas, perianal fistulas, perineal sepsis, rectal perforation, rectal stenosis (often due to high sutures that generate the well-known hourglass defect), anal stenosis and anal sphincter injuries (due to too low sutures) are described in the literature.⁶⁻⁹

However, other studies postulate that stapled hemorrhoidopexy has a lower complication rate. A recent meta-analysis with at least 2000 patients found that the percentage of complications was 20.2% for stapled hemorrhoidopexy vs. 25.2% for conventional hemorrhoidectomy (statistically significant result).¹⁰

Our opinion is that major complications arise from defects in the surgical technique. This is why mentoring during the short learning curve is important.

Out of a total of 822 operated patients, our morbidity includes:

Hemorrhoidal thrombosis 2.5%.

Anal fissure 1%.

Bleeding from the suture line 1% (2 patients required reoperation, progressing well in the postoperative period).

Hematoma of the suture line 0.5%, which did not require reoperation.

One patient presented a mild stenosis at the suture line that resolved with outpatient office dilations.

No patient had anal incontinence, moderate/severe stenosis, fistulas of any kind, or other serious complications. The most frequent postoperative symptoms were tenesmus and pain, both manageable with medical treatment.

Some tips to prevent these types of complications:

- Carry out a series of cases accompanied by an experienced surgeon (applies to any surgery).
- Place the drawstring strip 3-4 cm above the dentate line (as described in the technique), taking only mucosa and submucosa. Performing it more proximally for fear of sphincter injury can lead to rectal complications (already described) and performing it lower to excise more tissue can cause injuries or pain in the anal sphincter (remember that the purpose of this surgery is not to excise tissue, but rather dearterialize and correct the prolapse, so the bene-

Pablo Piccinini

pablopiccinini@gmail.com

Received: March 2020. Accepted: May 2020

The authors declare no conflict of interest.

fits will be secondary to the latter). However, it should be noted that, in experienced hands, achieving a lower purse-string could improve outcomes and decrease the recurrence rate.

- To prevent postoperative bleeding (the most common complication), hemostatic stitches can be performed at the level of the suture line with absorbable suture, both to reinforce the entire line (this would also aim to ligate any residual hemorrhoidal tissue) and at the sites where there is active bleeding after firing the stapling device. Take into consideration that if the entire line is reinforced, the running suture must be adjusted with the anoscope inside, since otherwise it could lead to stenosis of the suture line. Our recommendation, however, is to only perform hemostatic stitches at active bleeding sites and not to reinforce the entire suture line.
- An analgesic regimen in the postoperative period may be adequate to reduce the symptoms associated with rectal and anal inflammation. Also a semi-solid diet, abundant fluid intake and some natural laxative to improve the quality of the stool, since constipation motivated in many cases by fear of post-evacuation pain is frequent after surgery.

One last mention, although not minor, since most of the detractors of this technique emphasize it, is the fact that stapled hemorrhoidopexy seems to be associated with a greater number of long-term recurrences and a greater need for retreatment. A systematic review of

the Cochrane database showed a recurrence rate of 6% for stapled hemorrhoidopexy versus 3% for conventional hemorrhoidectomy,¹¹ and other studies published similar results.¹²

In our experience, 3% of patients complained of recurrent hemorrhoidal prolapse. However, most had a single hemorrhoid recurrence, not a circumferential prolapse, and were successfully treated with rubber band ligation on an outpatient basis. Two patients required reoperation for major hemorrhoidal prolapse and progressed satisfactorily after the second stapled hemorrhoidopexy, remaining asymptomatic to date.

A technique first described by Morinaga et al.,¹³ Doppler-guided transanal hemorrhoidal dearterialization, has been compared to that proposed by Longo and some studies have shown that it is associated with less postoperative pain and fewer serious complications.^{14,15} However, others found no differences between the two methods.¹⁴ We believe that studies are still lacking to determine the superiority of one technique over the other.

In conclusion, 22 years after Antonio Longo's work, stapled hemorrhoidopexy continues to be used for the treatment of grade III-IV and circumferential hemorrhoids, in which case in our opinion it is the first option. It may be that in the near future new techniques will arrive to replace it, but today we do not have enough evidence to set aside a technique that greatly reduces immediate postoperative pain and has good results in the short, medium and long term.

REFERENCES

1. Longo A. Treatment of hemorrhoidal disease by reduction of mucosa and hemorrhoidal prolapsed with a circular suturing device: a new procedure. In: Proceedings of the 6th World Congress of Endoscopic Surgery. Bologna, Italy: Monduzzi Editore; 1998. pp 777-84.
2. Corman M, Gravié JF, Hager T, Loudon MA, Mascagni D, Nyström PO, et al. Stapled haemorrhoidopexy: a consensus position paper by an international working party - indications, contra-indications and technique. *Colorectal Dis* 2003;5:304-10.
3. Laughlan K, Jayne DG, Jackson D, Rupprecht F, Ribaric G. Stapled haemorrhoidopexy compared to Milligan-Morgan and Ferguson haemorrhoidectomy: a systematic review. *Int J Colorectal Dis* 2009; 335-44.
4. Stuto A, Favero A, Cerullo G, Braini A, Narisetty P, Tosolini G. Double stapled haemorrhoidopexy for haemorrhoidal prolapse: indications, feasibility and safety. *Colorectal Dis* 2012;e386-e89
5. Shanmugam V, Thaha MA, Rabindranath KS, Campbell KL, Steele RJ, Loudon MA. Rubber band ligation versus excisional haemorrhoidectomy for haemorrhoids. *Cochrane Database Syst Rev* 2005;20:CD005034.
6. Faucheron J, Voirin D, Abba J. Rectal perforation with life-threatening peritonitis following stapled haemorrhoidopexy. *B J Surg* 2012;99:746-53.
7. Pescatori M, Gagliardi G. Postoperative complications after procedure for prolapsed hemorrhoids (PPH) and stapled transanal rectal resection (STARR) procedures. *Tech Coloproctol* 2008;12:7-19.
8. Joyce E, Kavanagh D, O'Connell P, Hyland J. Massive intra-abdominal haemorrhage following stapled haemorrhoidopexy. *Int J Colorectal Dis* 2012;27:679-80.
9. Faucheron JL, Arvin-Berod A, Riboud R, Morra I. Rectal perforation and peritonitis complicating stapled haemorrhoidopexy. *Colorectal Dis* 2010;12:831-32.
10. Nisar PL, Acheson AG, Neal KR, Scholenfield JH. Stapled hemorrhoidopexy compared with conventional hemorrhoidectomy. Systematic review of randomized controlled trials. *Dis Colon Rectum* 2004;47:1837-45.
11. Jayaraman S, Colquhoun PH, Malthaner RA. Stapled versus conventional surgery for hemorrhoids. *Cochrane Database Syst Rev* 2006;18:CD005393.
12. Shao WJ, Li GC, Zhang ZH, Yang BL, Sun GD, Chen YQ. Systematic review and meta-analysis of randomized controlled trials comparing stapled hemorrhoidopexy with conventional hemorrhoidectomy. *B J Surg* 2008;95:147-60.
13. Morinaga K, Hasuda K, Ikeda T. A novel therapy for internal hemorrhoids: ligation of the hemorrhoidal artery with a newly devised instrument (Moricorn) in conjunction with a Doppler flowmeter. *Am J Gastroenterol* 1995;90:610-13.
14. Sajd MS, Parampalli U, Whitehouse P, Sains P, McFall MR, Baig MK. A systematic review comparing transanal haemorrhoidal dearterialisation to stapled haemorrhoidopexy in the management of haemorrhoidal disease. *Tech Coloproctol* 2012;16:1-8. . A systematic review comparing transanal haemorrhoidal dearterialisation to stapled haemorrhoidopexy in the management of haemorrhoidal disease. *Tech Coloproctol*. 2012; 16:1-8

15. Venara A, Podevin J, Godeberge P, Redon Y, Barussaud ML, Sielezneff I, et al. A comparison of surgical devices for grade II and III hemorrhoidal disease. Results from the LigaLongo Trial comparing transanal Doppler-guided hemorrhoidal artery ligation with mucopexy and circular stapled hemorrhoidopexy. *Int J Colorectal Dis* 2018;33:1479-83.procedure for prolapsed hemorrhoids (PPH) and stapled transanal rectal resection (STARR) procedures. *Tech Coloproctol* 2008;12:7-19.
16. Joyce E, Kavanagh D, O'Connell P, Hyland J. Massive intra-abdominal haemorrhage following stapled haemorrhoidopexy. *Int J Colorectal Dis* 2012;27:679-80.
17. Faucheron JL, Arvin-Berod A, Riboud R, Morra I. Rectal perforation and peritonitis complicating stapled haemorrhoidopexy. *Colorectal Dis* 2010;12:831-32.
18. Nisar PL, Acheson AG, Neal KR, Scholenfield JH. Stapled hemorrhoidopexy compared with conventional hemorrhoidectomy. Systematic review of randomized controlled trials. *Dis Colon Rectum* 2004;47:1837-45.
19. Jayaraman S, Colquhoun PH, Malthaner RA. Stapled versus conventional surgery for hemorrhoids. *Cochrane Database Syst Rev* 2006;18:CD005393.
20. Shao WJ, Li GC, Zhang ZH, Yang BL, Sun GD, Chen YQ. Systematic review and meta-analysis of randomized controlled trials comparing stapled haemorrhoidopexy with conventional haemorrhoidectomy. *B J Surg* 2008;95:147-60.
21. Morinaga K, Hasuda K, Ikeda T. A novel therapy for internal hemorrhoids: ligation of the hemorrhoidal artery with a newly devised instrument (Moricorn) in conjunction with a Doppler flowmeter. *Am J Gastroenterol* 1995;90:610-13.
22. Sajd MS, Paramalli U, Whitehouse P, Sains P, McFall MR, Baig MK. A systematic review comparing transanal haemorrhoidal dearterialisation to stapled haemorrhoidopexy in the management of haemorrhoidal disease. *Tech Coloproctol* 2012;16:1-8. . A systematic review comparing transanal haemorrhoidal dearterialisation to stapled haemorrhoidopexy in the management of haemorrhoidal disease. *Tech Coloproctol*. 2012; 16:1-8
23. Venara A, Podevin J, Godeberge P, Redon Y, Barussaud ML, Sielezneff I, et al. A comparison of surgical devices for grade II and III hemorrhoidal disease. Results from the LigaLongo Trial comparing transanal Doppler-guided hemorrhoidal artery ligation with mucopexy and circular stapled hemorrhoidopexy. *Int J Colorectal Dis* 2018;33:1479-83.