Stapled Haemorrhoidectomy—Experience With Modified Anoscope

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Abstract Stapled haemorrhoidectomy (SH) is gradually becoming popular. Though it is a “patient friendly” procedure, it has not become the “gold standard”. About 15 % complication rate is reported. A perfect purse-string can avoid many of the complications. The author has made a semicircular hole in the anoscope, which has helped in taking the purse-string at proper depth and at proper distance from the dentate line. A total of 72 cases of SH are performed without any complication. Histopathological examination of donoughts in the first 20 cases shows excision up to the submucosa in 16 cases. Our modified anoscope helps in proper visualisation and proper pick up of the rectal wall for perfect purse-string suture and thus complications are avoided.

Keywords Stapled haemorrhoidectomy · Modified anoscope · Purse-string suture · Complications

Stapled haemorrhoidectomy is a “patient friendly” procedure for piles and prolapsed rectum. However, many complications are reported [1]. A wrongly taken purse-string stitch is the trouble shooter [2, 3]. To take a bite at the same level and proper depth is the trick for success. It needs proper training,

proper instrument, and also adequate experience. The surgeon has every chance to take shallow or deeper bites and also bites at irregular places if regular anoscope supplied in Ethicon PPH set is used. Irregular, superficial bites can result in incomplete donoughts leading to bleeding and recurrence whereas deeper bites can cause injuries of the deeper muscle of the ano-rectal wall leading to complications like postoperative pain, dehiscence and stricture. Purse-string coming within 2 cm of the dentate line can include part of the dentate line in excision by the stapler leading to severe pain in the post-operative period.

Our Modification

We have earlier performed 58 stapled haemorrhoidectomies by Longo’s technique using Ethicon’s PPH set during April 2003 and January 2007. We realised that proper purse-string suture of the rectal mucosa is the main key to success. To perform a proper purse-string stitch, it must be taken (i) at the same level i.e. about 3–4 cm above the dentate line and (ii) at the same depth i.e. submucosa. To achieve these, we have made a 1-cm size, half circle hole, at 6 cm of the right wall of the anoscope of Ethicon PPH Equipment set with help of a local plastic industry (Fig. 1).

Special care is taken to smoothen the cut edge. This modified anoscope is reused after proper sterilisation in Cidex Solution. Except for using this modified anoscope, the rest of the procedure is according to Longo’s technique of stapled haemorrhoidectomy.

We have performed 72 cases of SH for Grade II and III piles with modified anoscope since February 2007 to August 2013. We have not experienced any intraoperative nor any postoperative complication during the 3-month to 5-year follow-up.

Paper titled: “Modification in the purse-string suture anoscope in stapled Haemorrhoidectomy” was presented at the Annual Conference of ASI in Ludhiana on December 29, 2008.

Poster presentation titled: “Histopathology of Stapled Haemorrhoidectomy Specimens: our experience” at the 11th congress of Asian Federation of Coloproctology in Tokyo, Japan, September 20–22, 2007.

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Fig. 1 The modified anoscope with a 1 cm size, half circle hole in the right wall

Discussion

The semicircular hole in our modified anoscope helps the rectal mucosa to protrude out (Fig. 2) which helps to take the purse-string stitch at the proper depth. Taking the stitch in the

Fig. 2 Rectal mucosa protruding out through the hole of the modified anoscope

Fig. 3 **a** Diagrammatic presentation: The purse string is at equal distance from the dentate line at 3 and 9 O'clock position when modified anoscope is used. **b** Diagrammatic presentation: Purse string started at 3 O'clock position tends to come down when it reaches 9 O'clock position if a regular anoscope is used

protruded mucosa is also easy and convenient. Yamamoto et al. [2], Regadas et al. [4] and Bozdog et al. [5] also have reported better experience with their modified anoscope. As the semicircular hole is at 6 cm of our modified anoscope, so the purse-string is about 4 cm above the dentate line. The stapled line after completion of the procedure is found at equal distance about 3 cm from the dentate line all around (Fig. 3a) in all cases and it is at perpendicular to the direction of the rectal lumen.

Otherwise, if a regular anoscope is used, the stitching line unknowingly tends to come down as one moves away from the 3 o'clock position resulting in the staple line coming closer to the dentate line at the 9 o'clock position (Fig. 3b). This was noticed in one-third of our cases using regular anoscope. Purse-string coming within 2 cm of the dentate line can include part of it in excision by the stapler leading to severe pain and stricture in the postoperative period. This can be avoided if our modified anoscope is used. To get a uniform donought all around, the stapler should be at 90° to the purse-string and this can be achieved by our modified anoscope. In our first 58 cases with regular anoscope, donoughts were irregular in breadth as well as in thickness in 18 cases and were incomplete in 2 cases. Whereas in all cases, performed with modified anoscope, donoughts were complete and had proper thickness of tissues. Also, the size of the donoughts was uniformly about 2 cm all around. We attribute incomplete and irregular donoughts in 20 out of the first 58 cases to our inadequate experience as well as to slight difficulty of taking the purse-string with regular anoscope. A surgeon, when using a regular anoscope, has a chance of taking too superficial or too deep purse-string stitch in the rectal wall which can cause adverse results. The advisory committee of the National Institute for Clinical Excellence, UK in 2003 has recommended that full thickness excision of the rectal wall can cause adverse events. The protruded and properly seen rectal wall through the semilunar hole in our modified anoscope helps in taking bite at proper depth and thus one can avoid such complications. We have not noticed any

postoperative bleeding needing any active treatment nor any major ano-rectal malfunction nor staple line stenosis whether we have used regular or modified anoscope. We have always put stitches to control the staple line bleeding till complete haemostasis is achieved. We attribute no recurrence of haemorrhoids in our series to non-inclusion of grade IV cases.

Histopathological examination of donoughts is done in the first twenty cases. Our excision in 16 cases is up to the submucosal plane and in 4 cases up to the inner circular muscle layer. This amount of excision is acceptable. Excision of part of the inner circular muscle of the rectal wall in SH does not cause any continence problem nor any post-operative pain. Occasionally, minimal oozing due to very superficial trauma to the mucosa is caused by movement of our modified anoscope. But it is so transient and minimal that it does not need any extra effort to stop it. Mucosal trauma can be avoided by slow rotational movement of the anoscope whilst taking out rather than quick straight pull out.

Conclusion

Our modified anoscope with a semicircular hole at 6 cm facilitates better visualisation of the bulging rectal mucosa and in easy pick up of the rectal mucosa to take the purse-string at proper depth and proper distance from the dentate

line. Thus, it helps in avoiding complications of stapled haemorrhoidectomy.

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Conflict of Interest None.

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