MARKING THE NEEDLE HOLDER AND THE DISSECTING FORCEPS WHILE TAKING PURSE STRING SUTURE IN STAPLER ANOPEXY, EASES TO HAVE A UNIFORM DONOUGH HEIGHT. - A RANDOMISED PROSPECTIVE STUDY IN 62 CASES.

INTRODUCTION

The first transanal stapling technique for the treatment of anorectal prolapse was presented at the 2nd World Congress of Colo-rectology in Rome in 1998 by Dr. Antonio Longo [1]. He described a novel technique for the surgical correction of prolapsing hemorrhoids, originally referred to as procedure for prolapse and hemorrhoids (PPH) and more recently as stapled hemorrhoidopexy/Anopexy. Stapled Anopexy (SA) is presently a standard method of treating Grade III and IV Haemorrhoids. Unlike Milligan Morgan and Ferguson method of Hemorrhoidectomy, it causes less postoperative pain and hospital stay with early recovery and early return to work.[2] Although a source of controversy in the early years, it has subsequently been subjected to critical appraisal and has provoked many randomised clinical trials, meta-analyses, and more recently in 2007 a favourable review from the National Institute for Health and Clinical Excellence (NICE) [3].

Needle holder and the dissecting forceps are marked with skin marker pen at the point upto which they should be introduced in rectum through the ano-scope to take a mucosal suture. The advantage of this technique of marking the instruments, remain in achieving a uniform doughnut height at the end of the procedure. The markings on the manufacturer's anoscope is not visible during all bites during purse string in grade III & IV haemorrhoids whereas these markings are outside the anus and always visible... This avoids the possibility of bevelled doughnut while pulling the suture over the anvil of the stapler and closing the stapler prior to stapling. The marking minimises the chance of having incomplete or near incomplete doughnut. This may probably produce a 360 degree uniform submucosal fibrosis[4]. A randomised controlled prospective study on 62 patients showed all but one doughnut in the study group of 35 patients were of uniform height where instruments were marked in comparison with the unmarked instruments where 5 bevelled doughnuts were detected among 27 patients taken as control group for operation. There was no incomplete doughnut due to bevelled purse string in any patients.

Marking with a skin marker pen at the desired length, is all that is required. It may also be helpful for the young Surgeons performing SA with less chance of complications related to unequal doughnut height.

DISCUSSION

The mechanism of SA works on the basis of removal of a circumferential strip of muscle fibres in grade III & IV haemorrhoids whereas these markings are outside the anus and always visible. This avoids the possibility of bevelled doughnut while pulling the suture over the anvil of the stapler and closing the stapler prior to stapling. The marking minimises the chance of having incomplete or near incomplete doughnut. This may probably produce a 360 degree uniform submucosal fibrosis[4]. A randomised controlled prospective study on 62 patients showed all but one doughnut in the study group of 35 patients were of uniform height where instruments were marked in comparison with the unmarked instruments where 5 bevelled doughnuts were detected among 27 patients taken as control group for operation. There was no incomplete doughnut due to bevelled purse string in any patients.

Figure 1-Two markings on forceps
Figure 2- Marking on Needle holder
Figure 3-Purse string suture being taken as per markings
mucosa followed by stapling[10]. This acts like a ligament being pulled up to the internal haemorrhoids nearly to its normal position. Subsequent submucosal fibrosis prevents recurrence[11]. Approximately 1.5cms of mucosa is excised in SA in stapling. If the purse string is taken in such a manner that the donught is of unequal height or bevelled, then the ligament like pull shall be varying due to unequal height. Bevelled purse string suture when pulled can miss a part of mucosa within the stapler around the anvil. This may produce an incomplete donught after stapling at times, which may lead to primary bleeding.

In our study, we found uniform donught in all but one patient amongst 35 where the instruments were marked. In the control group, 5 patients had unequal donught heights. One of the five patients had a bevelled donught with mild bleeding. The difference of outcome between the study and control group gains statistical significance with p-value of 0.0193. The bleeding points in the control group were sutured with 000 vicryl[12]. No patient had major bleeding. The inequality of the donught height was mostly seen in the area of 10-2 o’clock position. This indicates that the most difficult part of purse string suture area is 10-2 o’clock area. The equal height ensures all the circumferential tissue within the stapler following the purse string pull before stapling. Bevelled purse string has possibility of developing an incomplete donught which may lead to bleeding. The laxity of rectal mucosa and size of the Haemorrhoids may misguide the level of purse string suture as per the anoscope markings as they are only visible at times obscured by the lax mucosa. The instrument marking eliminates the possibility of such unequal heights of the donught. This manoeuvre can be very convenient to the Surgeons beginning to perform SA.

CONCLUSION
This small effort of marking the instruments at the beginning of the procedure makes the purse string suture easy to take. Uniform donught height reduces any bleeding complications. Bevelled purse string suture can be avoided and so the possibility of incomplete donught formation can be minimised. This manoeuvre can also be very helpful for the young Surgeons to develop an uniform donught. Further scope of study with a larger sample size is required to evaluate the recurrence rates of SA with uniform and bevelled doughnuts in terms of submucosal fibrosis.

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REFERENCES: