Original Article

Internal sphincterotomy as a postoperative pain relieving method in patients operated for open hemorrhoidectomy

Prashant Mukadam*, Shakib Masu*

Associate Professor, Department of Surgery, AMC MET Medical College, Ahmedabad, Gujarat, India

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ABSTRACT

Background and Objective: Open hemorrhoidectomy is a standard, curative and operative procedure for hemorrhoids of second and third degree. Postoperative pain is the most common and important concern of the patient, the fear of which prevents patients from preparing for surgery. This surgical procedure commonly creates three raw areas in the anal region. Performing the procedure that helps in healing these raw areas definitely helps to alleviate postoperative pain and discomfort. It is this hypothesis that led us to study internal sphincterotomy in addition to routine open hemorrhoidectomy.

Material and Methods: 20 patients with second or third degree hemorrhoids, admitted to Sheth LG General Municipal Hospital from May 2013 to February 2014 were studied and their postoperative course was analyzed. A subjective observation and questionnaire was formed and observed. Patients were given routine postoperative analgesics and other drugs. Our observation included the analysis of mild / moderate or severe pain on the postoperative days from the 1st to the 5th. Discomfort while passing stool and need of injectable analgesics in the postoperative course was also observed.

Results: Most of patients complained about only mild pain in the postoperative course. Postoperative complication rate was minimal.

Conclusion: Our procedure of adding internal sphincterotomy along with internal hemorrhoidectomy was well tolerated by patients and it increased the comfort level of the patients successfully.

Keywords: Internal sphincterotomy, post operative pain relief, open hemorrhoidectomy

INTRODUCTION

The word “hemorrhoid” is derived from “hemorrhoides” meaning flowing of blood (heam = blood, rhoos = flowing). The word “pile” comes from the Latin word “pila” meaning a pill, cushion or a ball. So commonly when a patient complains of a swelling, he has “piles” and when a patient complains of bleeding, he is known to have “hemorrhoids”. All our patients were having hemorrhoids. Commonly patients having piles, are given conservative management while patients having bleeding are advised a surgical management. Out of many treatment options like injection sclerotherapy, rubber band ligation, infrared photocoagulation [1], bipolar diathermy [2], closed hemorrhoidectomy [3], open hemorrhoidectomy [4], and stapled hemorrhoidectomy [5], open hemorrhoidectomy is the gold standard surgery to which the results of the other management strategies are compared.

The surgery of open hemorrhoidectomy requires special counseling to the patient regarding information about postoperative pain and other possible postoperative complications. The degree of pain after open hemorrhoidectomy is considered by many to be the main reason for which patients resist the surgery. It isn’t surprising, therefore, that surgeons have repeatedly modified the technique with the main aim of reducing postoperative pain. The open technique [4] was compared with closed hemorrhoidectomy but no significant difference was found in the results [6,7]. Spasm of anal sphincter in the area of sensitive anal skin is considered a major pain generating factor in the postoperative period. The rationale to include internal sphincterotomy is based on the consideration

that it relieves the spasm and in turn the postoperative pain [8,9]. Eisenhammer had concluded that there is no beneficial effect of internal sphincterotomy but Asfar concluded that there are some benefits of this procedure [8,9].

Our study is extremely subjective and patient dependent. Assessing the comfort level of the patients by questionnaire and assessing the patients need for injectable analgesics were the most difficult, however the only means to assess the hypothesis.

MATERIAL AND METHODS

20 patients with second or third degree hemorrhoids, admitted to Sheth LG General Municipal Hospital from May 2013 to February 2014 were studied and their postoperative course was analyzed. Preoperative preparations, type of anesthesia and the operative technique were same in all the patients. The lowest level of hemoglobin to make the patient fit for surgery was 9g/dL. Patients with other medical illnesses were optimally treated and made normal before the surgery. Preoperative overnight foot-end elevation was recommended to the patient to reduce congestion in the hemorrhoidal bed and also to make them acquainted to the position in the postoperative period.

Preoperatively, injection Ceftriaxone and injection Metrogyl 100 mL was given to reduce the chances of postoperative infection. The antibiotics were given in the injectable form for the first 24 hours and then the oral antibiotics were started.

Spinal anesthesia was given to all the patients. Preoperative infiltration with adrenaline and xylocaine solution in the hemorrhoid bed was given. Then standard technique of open hemorrhoidectomy was performed [4]. Silk 2-0 was used as the suture material.

Left lateral subcutaneous sphincterotomy was done from the left sided raw area remaining after the hemorrhoidectomy. A small piece of gauge was left in the anal canal after impregnating it with Sheild ointment. A sterile cotton pad was kept and dressing was done. Patients were shifted to the ward. Postoperatively patients were observed for any complains of pain and discomfort and complications.

Injectable analgesics were given postoperatively immediately and at night in the form of Diclofenac Sodium 75mg intramuscularly. From the next day patients were given oral analgesics in the form of tablet Diclofenac Sodium 50g TDS, which is available in the hospital. Patients were given a Sitz bath after passing stool each time. They were advised to apply ointment before passing stools and after each Sitz bath. The foot end of the patients was raised for 3 postoperative days. All the patients were given syrup Lactulose 20 ml from the second postoperative day.

The patients with thrombosed and infected hemorrhoids were excluded from the study.

OBSERVATION

All the patients operated were diagnosed to have 2nd or 3rd degree hemorrhoids. The average age of the patients in this study was 40. The youngest was 20 years old and the eldest was 62 years old.

Table 1: Age group wise distribution of patients

Age Group (in years)	No. of patients in the age group
20-29	6
30-39	4
40-49	4
50-59	1
60-70	5
Total	20

60% patients passed stool on the 2nd postoperative day, 30% passed on the 3rd day while 10% passed on the 4th day.

When asked about comfort and tolerance, only 10% complained of severe pain. Rest complained of moderate pain, which was relieved by a post-defecation Sitz bath with Savlon for 10 minutes. Only 1 patient developed retention of urine in the postoperative course and none of the patients developed hemorrhage.

15% of the patients required preoperative medical management for hypertension. None of the patients was found to have any other medical condition. All the patients had a normal hematocrit, and serological and biochemical reports. Average hemoglobin was 9.6 g/dL preoperatively.

DISCUSSION

Male preponderance was found in our study; 70% were male patients and 30% were females. This

corresponds to the global data available in the literature in which there were 60% males and 40% females. Though the disease may be equally prevalent in both the genders, but the representative data, in which patients coming for surgery were observed, may show this variation [10,11]. The average age of the female patients was 48 years and for males was 40 years.

Our study shows that more number of patients belonged to the younger age group (20-49) as compared to the elder age group. However other studies [12,13] show that there is an increase in the number of patients as the age increases.

Other surgical conditions like hernia, genitor-urinary prolapse or prostatism were not found in our study as the representative age group was the younger one. These disorders are a result of increased intra-abdominal pressure which may increase the grade of hemorrhoids.

Studies on measurements of anal sphincter pressure show that the basal anal pressure is significantly higher in patients with hemorrhoids [14-16]. Anatomical and histological studies demonstrated that there was a higher than normal distribution of type 1 muscle fibers in the sphincter of patients having hemorrhoids. This suggests that they have persistent increased tone of the sphincter muscles. By combining internal sphincterotomy with internal hemorrhoidectomy, the anal pressure may be decreased which in turn helps the patient by relieving the symptoms post operatively.

Table 2: Division of patients according to their pain level

Grade of pain	No. of patients: Total (male, female)				
	1st POD	2nd POD	3rd POD	4th POD	5th POD
No	Nil	Nil	3 (1,2)	8 (3,5)	10 (5,5)
Mild	6 (2,4)	7 (2,5)	7 (4,3)	10 (9,1)	8 (7,1)
Moderate	12 (10,2)	12 (11,1)	10 (9,1)	2 (2,0)	2 (2,0)
Severe	2 (2,0)	1 (1,0)	Nil	Nil	Nil

No. of patients who suffered from severe post operative pain were very few. Their severity of pain reduced in 24-48 hours. Majority of the patients suffered from a moderate degree of pain which also reduced in the next few days. Females tolerated the surgery very well and severity of the pain which they perceived is also of the lower grade. Convergence of the pain from severe to mild was also faster than their male counterpart .Females' perceiving lower grades of pain may be due to lower tone of the internal sphincter after giving childbirth. Only 1 patient (0.5%) developed urinary retention while other studies show that the rate of retention of urine is 8% [6,7]. We avoided this complication by restricting the amount of postoperative i.v. fluids. Another factor which must have contributed to a low rate of this complication in our study was adequate postoperative pain relief.

The factors that might have contributed to adequate pain relief were elevation of the foot end, infiltration of Xylocaine-adrenaline (1:100,000), avoiding packing of the anal canal in the immediate postoperative period, local application of an ointment (Combination of lidocaine 3%, hydrocortisone 0.25%, zinc oxide 5%, and allantoin0.5%), postoperative injectable and oral analgesics, regular Sitz baths after each defecation, and application of the same ointment mentioned earlier before and after each defecation.

Foot end elevation from the previous night of the operation up to the 2nd postoperative day improves the lymphatic and venous return from the anal area, which in turn reduces the congestion, inflammatory exudates and pain.
Inclusion of commercially available Xylocaine: Adrenaline instead of an adrenaline : saline solution for the infiltration gives equal and accurate proportion of adrenaline. Effect of xylocaine also reduces the immediate postoperative pain.

Each of the components of the above mentioned ointment has its own mechanism in reducing the pain. For instance, hydrocortisone reduces the local inflammation while zinc oxide works as an astringent and the allantoin hastens the healing process.

Furthermore, regular Sitz baths with Savlon speeds the healing and pain relief due to its hot fomentation, antiseptic effects and improvement of the local hygiene.

It is very difficult to judge the isolated role of internal sphincterotomy for the overall pain relief. However, this study suggests that, if not the sole factor, but, it was a major factor contributing to pain relief along with the other factors. This study was a subjective as the pain cannot be assessed in a formative way and the only means were in the form of a questionnaire and clinical judgment.

Internal sphincterotomy was done from the left lateral raw area (3' o'clock position) which is considered a more ideal site than the posterior area (6' o'clock position). It hardly takes a few seconds to perform this after finishing hemorrhoidectomy. It can be done with a knife, scissors or a cautery. It does not increase the operative time and never leads to any additional complications. Also, it is easy to learn and demonstrate the procedure.

CONCLUSION

With proper selection of patients, obtaining medical fitness, management of anemia, proper preoperative care, and counseling of the patients, open hemorrhoidectomy with internal sphincterotomy, gives optimum pain relief in the post operative period.

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Corresponding Author:

Dr Prashant Mukadam
M.S. General Surgery
Associate Professor of Surgery
AMC MET Medical College
Ahmedabad, Gujarat, India
E mail: mukadampn@yahoo.com

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