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A Comparative Study of Cases of Hemorrhoidectomy with Lateral Sphincterotomy and Hemorrhoidectomy without Lateral Sphincterotomy in Tertiary Care Centre

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Abstract

Introduction: Hemorrhoids are most common human disease defined as downward vascular displacement of submucosal cushions of the anal canal. In the past, various methods of treatment were presented for asymptomatic patients, however the surgical management has remained the best option available throughout. The commonest complication of open hemorrhoidectomy is post operative pain due to spasm of the internal sphincter which is also the cause of post operative urine retention, thus commonly performed procedure for relieving spasm and pain is lateral sphincterotomy. Lateral sphincterotomy adopted as a method to relieve sphincter spasm was thought to cause fecal incontinence as sphincter fibres are cut causing loss of anal tone. Hence a trial was made to evaluate whether combination of lateral sphincterotomy along with hemorrhoidectomy can help in the post-operative pain relief and reduce incidences of post operative urine retention and to know if lateral sphincterotomy is associated with fecal incontinence. The study aim was to evaluate the advantages of hemorrhoidectomy with lateral sphinctreotomy over hemorrhoidectomy done alone and association of fecal incontinence as a complication of lateral sphincterotomy. *Material and Methods:* This prospective study was conducted at Great Eastern Medical School, Srikakulam, and Andhra Pradesh, India between JULYS 2015 and JULY 2017 after obtaining an ethical clearance on consenting 100 patients who chose conventional open hemorrhoidectomy. Using lottery methods the patients were divided into two groups. Group A included patients with conventional open hemorrhoidectomy and lateral sphincterotomy. In Group B only open hemorrhoidectomy was done. Using Visual Analog Scale pain assessment was done on day - 0, 1, 2, and 7 respectively. Based on symptoms urine retention was assessed according to need for catheterization, fecal incontinene. *Results:* We found statistically that there was significant pain relief in the group to whom lateral sphincterotomy was added, lesser incidences of urine retention no cases of fecal incontinence were reported. *Conclusion:* In this study we conclude that the convenient and effortless way to reduce the postoperative pain with lesser urinary retention chances without risk of fecal incontinence is with conventional open hemorrhoidectomy along with lateral sphincterotomy which ensure better post operative period.

Keywords: Pain; Hemorrhoidectomy; Lateral Sphincterotomy; Urinary Retention; Fecal Incontinence; Visual Analog Scale.

Introduction

Man has been haunted by hemorrhoids since ages. In the medical history it is one of the earliest conditions recorded as a cause of discomfort to humans, affecting equally the young and old, poor and rich. The prevalence of hemorrhoids in general population is unknown but various documents reveal an incidence of just over 50%, probably approaches up to 75% of the adult population. Patients with menial symptoms do not seek surgical advice. Treatment options tried for

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hemorrhoids vary from dietary modifications to open surgery i.e haemorrhoidectomy. Every procedure has its own advantages and complications. To any proposed procedure haemorrhoidectomy is chosen best, including rubber band ligation, sclerotherapy, photocoagulation, and cryotherapy for treating symptomatic hemorrhoids [1].

Materials and Methods

This prospective study after obtaining an ethical clearance was done at Great Eastern Medical School, Srikakulam, Andhra Pradesh, India between July 2015 and July 2017. Patients who were in the study were explained of the treatment options available for hemorrhoids along with their uses and effects. The patients were allowed to opt for the treatment they preferred. 100 patients who choose conventional open hemorrhoidectomy as the treatment modality were included in the study.

Consented patients with predefined criteria and who were symptomatic for second degree haemorrhoids refractory to medical treatment, third degree haemorrhoids and fourth degree haemorrhoids were chosen by purposive sampling technique.

Exclusion Criteria

- Prior intervention for hemorrhoids,
- Patients with pathological hemorrhoids or bleeding tendencies.
- Patients who failed anesthesia fitness.
- Patients with neurological disorders, renal and liver dysfunction

Inclusion Criteria

- Age group 20-65 years.
- Patients available for follow up

Patients were prepared for the procedure as follows. For a minimum period of 6 hours prior to surgery patients were kept nil per oral. Before the planned surgery two phosphate enemas were given for mechanical bowel cleansing, one at night and the other in the morning. Intravenous doses of metronidazole along with a third generation cephalosporin was given an hour before and 6 hours after the procedure followed by a course of oral antibiotics for a period of 5 days.

The two groups of patients were randomised by lottery method. Group A included patients with combination of conventional open hemorrhoidectomy and lateral sphincertomy. Only conventional open hemorrhoidectomy was performed in Group B. Hemostasis was confirmed following the procedure, if bleeding points were noted they were controlled using cautery.

Analgesics were given only if patient had post operative pain. Intravenous paracetamol 1gm preparation was used for analgesia. No analgesic was used for discomfort. Patients were shifted to the respective wards following three hours of intensive care in post operative ward.

Pain assessment was done on day - 0, 1 and 7 respectively by Visual Analog Scale which included scoring zero to ten.

Visual Analog Scale [2]

- 00 -01score - No pain
- 02-03 score - Mild annoying pain
- 03-04 score - Nagging uncomfortable pain
- 04-05 score - Distressing miserable pain
- 06-07 score - Intense dreadful horrible pain
- 07-08 score - Worst ,excruciating unbearable pain
- 09-10 score - Severe pain.

Visual analog pain level was assessed as 'mild' (score 1-4) if analgesics required were 0-2 per 48hours to control the pain, 'moderate' (5-7) if 3-4 per 48 hours were given and (8-10) when analgesics were >4 in numbers and it was excruciating.

Post Operative Care

Patients were given sitz bath twice daily, and syrup lactulose 20 ml twice daily was used as stool softener. Patients with urine retention were catheterized. If no complications occurred patients were discharged 24-48 hours after the procedure, and were prescribed lactulose 20 ml along with sitz bath twice daily and a course of oral antibiotics were prescribed till normal bowel function reverted and they were stable with stool softeners .They were asked to review after a week. During follow up patients were asked about pain and were assessed according to VAS and stool soiling to rule out fecal incontinence.

Observation and Results

Out of 100 cases evaluated 56 cases belonged to the age 41-60 years. There was no statistical difference between the two groups with a p value less than 0.05 hence both groups are comparable. The average age of hemorrhoides was 47.78 years + SD 6 years (Table 1).

There was no statistical difference in terms of complications between the two groups. Two cases of grade four haemorrhoids had soiling of clothes which improved after 2 weeks (Table 2).

Table 1: Age distribution

Age distribution	Frequency	Valid %	Cumulative %
with lateral sphincterotomy			
21-30 years	3	6.0	6.0
31-40 years	14	28.0	34.0
41-50 years	20	40.0	74.0
51-60 years	10	20.0	94.0
more than 60 years	3	6.0	100
Total	50	100	
without lateral sphincterotomy			
21-30 years	4	8.0	8.0
31-40 years	12	24.0	32.0
41-50 years	14	28.0	60.0
51-60 years	12	24.0	84.0
more than 60 years	8	16.0	100
Total	50	100	

Table 2: Fecal incontinence

Group		Frequency	Valid %	Cumulative %
With lateral	Yes	1	2.0	2.0
sphincterotomy	No	49	98.0	100.0
	Total	50	100.0	
Without lateral	Yes	1	2.0	2.0
sphincterotomy	No	49	98.0	100.0
	Total	50	100.0	

Table 3: Urinary retention

Group		Frequency	Valid %	Cumulative %
With lateral	Yes	2	2.0	2.0
sphincterotomy	No	48	98.0	100.0
	Total	50	100.0	
Without lateral	Yes	46	2.0	2.0
sphincterotomy	No	4	98.0	100.0
	Total	50	100.0	

There was statistical difference between the two groups with p value 0.048. Urinary retention was more in group without lateral sphincterotomy compared to group with lateral sphincterotomy (Table 3).

Discussion

Since the beginning of history hemorrhoids are one of the oldest and commonest problems which have been tormenting mankind. To discuss the significance of the disease studies at Mayo clinic says that in early 1960 the patients who were examined proctoscopically recorded prevalence of 52% suggesting that one out of two in a given population suffer from hemorrhoids at some time of life. Pain is "an emotional and unpleasant sensory experience associated with actual or potential damage of the tissue". The most common complications of conventional open hemorrhoidectomy is post operative pain which remains as main drawback especially in the first postoperative week. The spasm of the internal sphincter that is exposed after open hemorrhoidectomy, especially in younger patients with higher anal tone is the attributing factor. Lord [3] described anal canal dilatation in 1989, but incidence of internal sphincter fibres uncontrolled damage was high. The alternative for anal dilatation was internal sphincterectomy was proposed by Notaras [4]. In 1990, Di Bella and Estienne stated that by reduction of the sphincter tonicity anal pain is reduced in internal sphincterotomy. Several authors reported that significant reduction of post hemorrhoidectomy pain and associated complications can be achieved by adding internal sphincterotomy to hemorrhoidectomy finally Asfar et al. [6], reported that the internal sphincterotomy through one of the hemorrhoidectomy wounds will significantly reduces post hemorrhoidectomy pain and associated complications. Worldwide the main stay surgical therapy for haemorrhoids is open hemorrhoidectomy.

Comparison of Age Distribution

In the study by Muhammad Waqas Raza [7] which included 108 patients in age group of 18-70 years the mean was 43 years. In another study by R. Rai which included 50 cases the mean age was 34.2 years [8]. Vighnesh V.V [9] found that 78 patients aged between 24 & 60 years the mean age was 48.24 years. Aron and Leo evaluated 102 cases of which the most common age group suffering from hemorrhoids was 45–50 years with 42 cases followed by 35–40 years 39 cases. Ruffinhood [10] included 24 patients the average age for haemorrhoids were 25- 70 years. In the study by Khub Chandani [11] which included 100 patients the mean age was 25-85 years. In the study by Lee [13] which included 117 patients the mean age of distribution of haemorrhoids was 19-85 years. When age distribution was compared with our study we found that, the study age group was 20 to 60 years. 100 cases of which the most common age group was 45-50 years followed by 35-40 years with 42 cases and 39 cases respectively. The mean age was 47.7 years.

Fecal Incontinence Post Hemorrhoidectomy

In studies by Yan-Dong Li et al they studied that after Milligan-Morgan hemorrhoidectomy Wexner score of the retained volume in the preoperative liquid continence test found that there is no difference in the continence status of patients [16]. A study done by Li [16] et al. concluded from his post hemorrhoidectomy questionnaire that 29% of the patients reported incontinence. No incontinence occurred after conventional hemorrhoidectomy was reported by Khafagy [14]. Lindsey, Ian, et al. [15] found that incontinence after anal surgery is characterized by the virtually universal presence of an internal sphincter injury, which is distal in the high-pressure zone. In a cohort study of 418 patients with consecutive Milligan hemorrhoidectomies, Johannsson, Helgi reported 40 fecal incontinence. M.G.Read studied the effect of haemorrhoidectomy on continence to faeces and anal sphincter manometry. He observed that there was no alteration in the function of the recto-anal inhibitory reflex following surgery. Only two patients developed incontinence. Pechlivanides, George, et al. following Stapled transanal rectal resection 16% of patients had minor soiling [18]. Neil Hyman [19] found that following lateral internal Sphincterotomy in 35 cases, three patients had deterioration in their continence score postoperatively. In only one patient the quality of life deteriorated.

Conclusion

In this study we conclude that the convenient and effortless way to reduce the postoperative pain with lesser urinary retention chances without risk of fecal incontinence is with conventional open hemorrhoidectomy along with lateral sphincterotomy which ensure better post operative period.

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