ORIGINAL RESEARCH PAPER

General Surgery

CLOSED INTERNAL SPHINCTEROTOMY USING VON GRAFAE KNIFE VS OPEN SPHINTEROTOMY IN THE MANAGEMENT OF CHRONIC ANAL FISSURES IN A TERTIARY CARE INSTITUTE OF AMRAVATI.

KEY WORDS: Closed internal sphincterotomy, von grafae knife, open sphincterotomy, chronic anal fissure.

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ABSTRACT

Background: Fissure in ano is one of the commonest benign and painful proctologic diseases causing considerable morbidity and reduction in quality of life. There are medical as well as surgical treatment options for anal fissure. The present study was conducted to find out the efficacy of closed internal sphincterotomy using von grafae knife for the management of chr onic anal fissures.

Methods: This was a study conducted at Department of surgery, Dr. PDMMC hospital, Amravati, Maharashtra, India from April 2018 to April 2019 for a period of 1 year. 80 patients with chronic anal fissure were randomly assigned into group A (40 patients) and group B (40 patients). Group A patients underwent open sphincterotomy, group B closed sphincterotomy using Von grafae knife. After matching the baseline characteristics; post op pain, wound infection, hematoma, fecal and flatus incontinence were compared.

Results: 4 out of 40 patients had wound infection in group A, 1 out of 40 had infection in group B. 8 out of 40 (10%) developed flatus incontinence temporarily in group A, 3 out of 40 (7.5%) in group B. 3 out of 40 (7.5%) had fecal continence in group A, none had it in group B but incontinence was temporary. Pain (VAS>6) was more in group A than group B. One patient had hematoma as a complication in group A.

Conclusions: Closed internal sphincterotomy using von grafae knife is a better technique compared to open technique in terms of pain, wound infection, incontinence.

INTRODUCTION

Fissure in ano is one of the commonest benign and painful proctological diseases causing considerable morbidity and reduction in quality of Life [1]. There are medical as well as surgical treatment options for anal fissure. Medical treatment relies on application of local anesthetic, stool softeners, high fiber diet and application of nitroglycerine paste and botulinum toxin [2]. In cases where medical treatment fails then surgical treatment is recommended. In past, anal dilatation was performed to decrease resting anal tone [3]. Eisenhammer introduced open internal anal sphincterotomy (OIAS) [4], It is the treatment of choice for chronic anal fissure. It results in healing of 94% to 96% of cases [5].

Fecal incontinence is a major problem associated with this procedure ranging from 20% to 64% [6]. To avoid this complication OIAS was modified from midline to lateral approach and from open to close technique. Furthermore, use of different devices in closed lateral internal anal sphincterotomy (CLIAS) reduce trauma to anal sphincter like radio-frequency bistoury and Von-Grafae (cataract) knife Radio-frequency bistoury is the costly procedure and not easily available but Von-Grafae knife is easily available [5]. It is a flat blade of just 2 mm in size and it causes minimal trauma to anal sphincter. Recently, in local study, Saif et al successfully did CLIAS with Von-Grafae knife and shows only 2% fecal incontinence which resolved spontaneously in a few weeks [7]. No randomized controlled trial is available to compare it with OIAS. Hence, the aim of this study was to compare the frequency of fecal incontinence in patients treated with OIAS (standard) versus CLIAS with Von-Grafae knife and to add to the data available that support the routine use of this technique which will potentially minimize this distressing complication of the simple procedure.

METHODS

The study was conducted at the Department of Surgery, Dr PDMMC hospital, Amravati, Maharashtra, India during a period of 1 year from April 2018 to April 2019. Sample size was 80 patients with chronic anal fissure. Patients were randomly divided into two groups A and B with 40 patients in each group. OIAS was carried out in patients of group A whereas patients of group B were subjected to CLIAS using Von grafae knife.

Patients with concomitant anal disease like Perianal abscess, fistula in ano, Crohn's disease or ulcerative colitis were excluded. The patients with previous history of anorectal surgery, those with neurological disease which leads to fecal incontinence, patients below 12 years of age and patients who did not give consent also excluded from the study. After admission, baseline investigations of all patients including complete blood count, blood sugar, serum urea, serum creatinine, serum electrolytes and urinalysis were performed. Anesthesia fitness was taken before surgical intervention. Written and informed consent regarding surgical procedure was taken by doctor on duty.

All patients underwent colon cleansing by being administered enema a night before surgery and early morning on the day of surgery. Patients were placed in lithotomy position and operative site was prepared with povidone-iodine solution followed by application of sterile drapes. Postoperative care included hot-sitz bath, fiber supplement and Syp. Cremaffin 30 ml in the night. Parameters compared were pain, wound infection, fecal and flatus incontinence and post-op hematoma formation. Pain was compared using mean visual analog scale (VAS), VAS >6 were considered significant.

RESULTS

In present study mean age in group A was 37.5 years and in group B was 35 years, with number of females in group A as 17 and in group B as 13.

Table1: Distribution according to gender.

Gender	Group A	Group B
Male	23	27
Female	17	13

On post-op day 1 almost all patients had pain on VAS >6, on post-op day 2 number of patients with with mean VAS >6 were 29 in group A and 20 in group B. One had hematoma during first 12 hrs after surgery in group A and none had it in group B. 4 of 40 patients had wound infection in group A and 1 of 40 in group B.

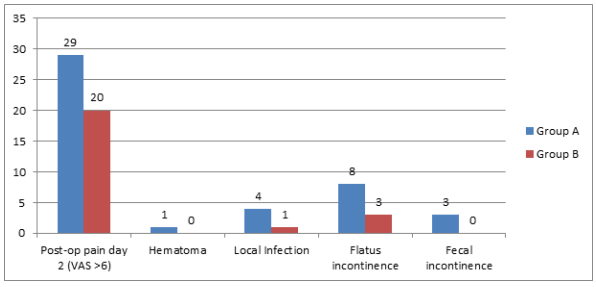
8 of 40 patients had flatus incontinence in group A and 3 in group B which was temporary, 3 of 40 patients had fecal

incontinence in group A and none in group B

Table 2: Post operative complications

Post-op complications	Group A	Group B
Post-op pain day 2 (VAS >6)	29	20
Hematoma	1	0
Local Infection	4	1
Flatus incontinence	8	3
Fecal incontinence	3	0

Graph 1: Post operative complications



DISCUSSION

Results of the current study revealed that patients who underwent CLIAS via von-greaves knife showed statistically significant difference with regards to pain, wound infection, incontinence than those who were treated with OIAS. In this study, the mean age group was 36 among which 30 were females and 50 males. Study conducted by Gupta V et al had mean age group 38 was and male to female ratio was 1.47:1 [8].

The OIAS is the most widely practiced surgical approach for the management of chronic anal fissure and is considered the "gold standard" [9], although it is considered safe but usually associated with complications like pain, bleeding, hematoma, and fecal incontinence [10]. Postoperative fecal incontinence is a major complication following surgery. The reported incidence of this morbidity is variable in the literature.

In this study mean pain (VAS) on post op day 1 was lesser in closed than open (P=0.03) Also there was decrease in the number of days of hospital stay in closed method. In the study conducted by Gupta V et al also had comparable results [8]. Wound infection was only in 1 case in closed and 4 cases (10%) in open. In the study conducted by Gupta V et al None had wound infection in closed and one case had infection in open. In the study conducted by Patel HS et al wound infection rate was 10.3% in open method and 4.2% in closed method. Wound infection rate in closed method was lower than open method [11].

Flatus incontinence was 7.5% in closed and 20% in open, fecal incontinence was 0 in open and 7.5% in closed which was temporary. In the study conducted by Gupta V et al, there was no incontinence noted in both the groups.

In the study conducted by Patel HS et al, incontinence to flatus was 8.3% in closed method and 3.4% in open method with an overall rate of 5.7% [11]. This was temporary and controlled within a 1 week. Incontinence to stool was 3.4% in open method which was temporary and controlled within 2 weeks while none in closed method with overall a rate of 1.9%.

CONCLUSION

Lateral anal sphincterotomy using von graefae knife (closed method) is a better alternative compared to open method in terms of hospital stay, post op pain, wound infection and incontinence.

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