



Surgery

LOCAL ANESTHESIA VERSUS SPINAL ANESTHESIA FOR HAEMORRHOIDECTOMY

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ABSTRACT **OBJECTIVES:** To evaluate the feasibility of hemorrhoidectomy under local anesthesia and compare this with spinal anesthesia.

PATIENTS AND METHODS: A prospective randomized study was carried out in the Department of surgery JLNMC Bhagalpur. A total of 70 patients, who were diagnosed as grade III and IV hemorrhoids and underwent hemorrhoidectomy were included in this study, patients were randomized into two groups 35 patient each. Group A underwent surgery under Local anesthesia (mixture of bupivacaine and lidocaine with adrenaline) with IV sedation given to facilitate injection of local anesthesia. Group B had hemorrhoidectomy under spinal anesthesia.

RESULTS: Mean pain scores were similar in both groups at 1,2,4 & 12 hrs except at 6 hrs the pain scores in the LA group were significantly lower than SA group (P<0.05). There was non-significant difference between both groups as regarding operative time, failure rate, postoperative bleeding, postoperative infection, and delayed wound healing.

CONCLUSION: local anesthesia for hemorrhoidectomy with IV sedation is a safe technique and should be considered as an alternative to regional anesthesia as it provides more postoperative analgesia with lower pain scores, no hypotension headache or urine retention.

KEYWORDS : Hemorrhoidectomy, Local anesthesia, Spinal anesthesia.

INTRODUCTION

Hemorrhoids or piles are a common ailment among adults. More than half of men and women aged 50 years and older will develop hemorrhoid symptoms during their lifetime [1]. Hemorrhoids are defined as the symptomatic enlargement and distal displacement of the normal anal cushions [2]. Clinically hemorrhoidal disease had classified into four grades. Open hemorrhoidectomy is the most commonly used technique and widely considered to be the most effective treatment for grade III and IV hemorrhoids[3]. The method was developed in 1937, by surgeons Milligan and Morgan in the UK [4]. Excisional hemorrhoidectomy including the Milligan-Morgan technique and its modification is traditionally viewed as a painful procedure [5]. In an attempt to reduce postoperative pain several procedures were developed as limited incisions, suturing the vascular pedicle without incisions, stapled hemorrhoidectomy. Today, various medications have been studied for postoperative analgesia as suppositories, local anesthesia, or oral preparations [6]. Local anesthesia was tried to decrease postoperative pain after hemorrhoidal surgery under general anesthesia or as the only anesthesia for hemorrhoidectomy [7,8]. The advantages of local anesthesia include postoperative analgesia, early recovery and early discharge, the major problem in performing hemorrhoidectomy under local anesthesia is severe pain that occurred during injection of the local anesthetic through the sensitive anoderm [9, 10]. On the other hand general or spinal anesthesia have their complications, need preoperative preparation and require postoperative hospitalization for observation till complete recovery. The aim of this study is to assess the feasibility of open hemorrhoidectomy under local infiltration anesthesia; IV sedation was given to facilitate injection of the local anesthetic, and compare this technique with spinal anesthesia.

PATIENTS AND METHODS

A prospective study was carried out in the Department of surgery JLNMC From August 2012 to January 2014. A total of 70 patients diagnosed clinically as third and fourth degree piles and underwent conventional hemorrhoidectomy were included in the study. Patients were randomized into two groups 35 patient each; Group A had surgery under local anesthesia with IV sedation; Group B underwent surgery under spinal anesthesia.

Inclusion Criteria:

- Patients with third and fourth degree hemorrhoids.

Exclusion Criteria:

- Patients with bleeding tendencies, or on anticoagulant therapy.
- Patients with history of anorectal operations.
- Patients with associated anorectal problems. (Fissures, fistulas.....etc.)

- Patients with the diagnosis of first and second degree piles who were given medical treatment or other non-operative measures.

All patients were subjected to:

I-Preoperative evaluation:

- 1- **Full history taking:** Detailed history including personal data, presenting symptoms (bleeding, prolapse, pain & pruritus ani). History of chronic illness (DM, HTN, Heart disease.....etc) previous operations, medications, allergy or blood transfusion.
- 2- **Clinical examination:** For detection of hemorrhoids, it's grading, complications and presence of other associated anorectal diseases. Coagulation profile for all patients.

- Preoperative investigations as needed according to patients' condition.
- Colonoscopy in selected patients.

II-Operation: Conventional diathermy hemorrhoidectomy.

Sedation: IV midazolam (0.05mg/ kg) and fentanyl (1mcg/ kg) Local anesthesia: A 30 ml mixture of local anesthetic (10 ml lidocaine hydrochloride 2% with adrenaline, 10 ml bupivacaine hydrochloride 0.5% and 10 ml normal saline to increase the volume for injection) was injected as follows: 5-7 ml were injected in each side into the intersphincteric plane at 3& 9 clock positions for pudendal nerve block introducing the needle at the mucocutaneous junction anterolaterally, the remaining amount in the subcutaneous and submucosal tissues at the anal verge. Relaxation of the anal sphincter was noticed. After this, the procedure was performed by the standard diathermy hemorrhoidectomy in lithotomy position.

III-Postoperative: All patients were observed in the surgical ward. Pain scores were evaluated using Numerical rating scale (NRS) at 1,2,4,6 & 12 hours postoperatively (a scale of 0 to 10 was used, the patient was instructed to encircle the appropriate number that best describes his/her current pain where 0 indicated no pain and 10 the worst pain ever experienced) [11]. Occurrence of urine retention, hypotension, headache or other complications was recorded. Analgesics were given according to patient need. Discharge in the same or next day with follow up at outpatient clinic after 1,2,4 and 6 weeks and after three months. Statistical Analysis: Standard methods using SPSS version 19 for statistical analysis, Chi-square was used in appropriate situation. P value ≤ 0.05 is considered the level of significance.

RESULTS

Preoperative data: (Table: 1) Age & sex: Among the 70 patients

included in this study 48 (68.7%) were males and 22 (31.3%) were females. The age of patients' ranges from 18 to 56 years with mean of age was (35.3 ± 9.1) years. There was no significant difference between the groups as regarding age and sex. Clinical Diagnosis: It was found that of 70 patients underwent hemorrhoidectomy 38 (54.3%) had 3rd degree and 32 (45.7%) patients had 4th degree piles. Table (1): Preoperative data: LA group SA group P value Table (1): Preoperative data: LA group SA group P value Sex Males (48) 22 26 0.43 Females (22) 13 9 Age Mean 34.6 (± 8.9) 36.1 (± 9.3) 0.68 Range (18 - 54) (19 - 56) Piles degree 3 rd degree (38) 20 18 0.63 4 th degree (32) 15 17 Operative data: Table (2) Failure rate: The operation had to be completed under general anesthesia in two patients (5.72%) in LA group and one patient (2.86%) in SA group. These three patients were excluded from the postoperative data analysis. Operative time: The mean operative time in LA group was (23.5 ± 7.1 min.) while in SA group was (21.3 ± 5.4 min.) Table (2): Operative data: LA group SA group P value Postoperative pain (Table: 3): In the operative day the pain as determined by NRS at 1,2,4,6 and 12 hours after the operation. Pain scores were similar in both groups. Except at 6 h where pain scores were significantly lower in LA group. Table (3): Postoperative pain scores: Pain score LA group SA group P value Mean range Mean range 1 st hour 0.6 (0-4) 0.2 (0-4) 0.07 2 nd hour 0.94 (0-4) 1.2 (0-5) 0.41 4 th hour 2.1 (0-5) 2.4 (0-7) 0.46 6 th hour 2.3 (0-7) 3.3 (0-8) 0.02* 12th hour 2.0 (0-4) 2.6 (0-4) 0.13 Postoperative complications: (Table: 4) Urine retention, headache and hypotension: No cases in the LA group had postoperative urine retention, headache or hypotension, while in SA group 4 patients had urine retention need catheterization, 8 patients had postoperative headache and 9 patients had postoperative hypotension.

DISCUSSION

Conventional hemorrhoidectomy as first described by Milligan and Morgan is still the most widely used and effective treatment for patients with third and fourth degree hemorrhoids. However, it associated with significant postoperative pain [12]. Control of pain after hemorrhoidectomy is of major importance, various medications were tried to improve pain as anal sphincter relaxants, injecting local anesthetics, anxiolytics, and parasympathomimetics [6]. Recent trials have shown the use of local anesthetic as the sole anesthetic method for anal operations [8-10]; a major disadvantage was severe pain on needle injection. In the current study we use IV sedation to avoid this problem. Among the 70 patients included in this study, the age of patients' ranges from 18 to 56 years with mean of age was (35.3 ± 9.1) years. 68.7% of patients were males and 31.3% were females. 38 patients (54.3%) had 3rd degree and 32 (45.7%) had 4th degree piles. Failure rate: The operation had to be completed under general anesthesia in one patient (2.86%) in SA group and two patients (5.7%) in LA group (nonsignificant difference). This was close to a study conducted by Alatis and his colleagues where failure rate was 4.5% with local anesthesia [13]. Operative time: The mean operative time in LA group was (23.5 ± 7.1 min.) while in SA group was (21.3 ± 5.4 min.) this was comparable to the results of the study provided by Ho and his colleagues when comparing local with general anesthesia for hemorrhoidectomy had operative time comparable with that time (16 ± 4 min.) for local anesthesia [9]. Postoperative pain: In the operative day the pain (determined by NRS at 1,2,4,6 and 12 hours after the operation) pain scores was similar in both groups except at 6 hrs where pain scores were significantly lower in LA group than SA group. These results were close to the results of Bansal et al; they found that: LA group has a significantly lower pain score at 6 hours [14]. No cases in the LA group had postoperative urine retention, headache or hypotension, while in SA group 4 patients had postoperative urine retention need catheterization, 8 patients had postoperative headache and 9 patients had postoperative hypotension from a total of 34 patients. This was a statistically significant difference. These results were agree with the results found by Bansal and his colleagues; In their study 36% of patients had urine retention, 24% had headache & 16% had hypotension [14].

CONCLUSION

Local anesthesia for hemorrhoidectomy with IV sedation is a safe technique and should be considered an alternative to regional anesthesia as it provides more postoperative analgesia with lower pain scores, no hypotension, and headache or urine retention. This study supports the feasibility of anal operations under local anesthesia.

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