

TEARLESS HAEMORRHOIDECTOMY: AN EXPERIENCE OF HAEMORRHOIDECTOMY USING CAUDAL ANESTHESIA IN DISTRICT SWAT

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ABSTRACT

Objective: The aim of the study was to evaluate the results and effectiveness of caudal anesthesia used for conventional open haemorrhoidectomy and compare the results with open haemorrhoidectomy done by general anesthesia.

Material and Methods: This prospective study was carried out at the department of surgery, Saidu group of teaching hospitals, Swat and surgical department, Tehsil Headquarter hospital, Matta, Swat over a period of 18 months (April 2000-Sep 2001). Pre and postoperative data of 100 patients was studied to establish the effectiveness of caudal anesthesia. Group 1 included 50 patients operated under caudal anesthesia and group 2 included 50 patients operated under general anesthesia. Age range was between 30 and 70 years.

Results: Postoperative bleeding, pain and constipation was less in patients who underwent haemorrhoidectomy with caudal anesthesia as compared with those who underwent general anesthesia.

Conclusion: Caudal anesthesia is as effective as general anesthesia for haemorrhoidectomy. This does not have the hazards of general and spinal anesthesia and patients tolerate it very well.

Key words: Caudal Anesthesia, Hemorrhoids.

INTRODUCTION

Thompson¹ demonstrated that in patients suffering from hemorrhoids the spe-

cialized cushions of submucosal tissue lining the anal canal slide downwards, together with the anal mucosa, owing to fragmentation of park's ligament. It is argued that hemorrhoids are merely the result of this

displacement and that prolapse poses an obstacle to venous outflow, resulting in congestion, bleeding and predisposition towards thrombosis.

The etiology includes straining at defecation, patients on low residue diet, sphincter damage, pregnancy, constricting cancer and portal hypertension. Its symptoms include prolapse, bleeding, pain, mucoid discharge, and pruritis ani and persistent wetness in the perianal region.²

Hemorrhoids, which are not prolapsed, cannot be felt with the finger. They can only be diagnosed with a proctoscope when it is withdrawn. The three common primary piles are at 3, 7, 11 o'clock in the lithotomy position.³

Haemorrhoidectomy is the most effective cure for prolapsing hemorrhoids;⁴ however, it is associated with considerable postoperative pain. The attempts to reduce pain following haemorrhoidectomy have included alterations in surgical techniques and modifications in perioperative treatment regimens. Although some surgeons have altered their practice, the evidence for the benefit of antibiotics and laxative has not gained universal acceptance.⁵

Technical modification to decrease post operative pain has included the addition of lateral sphincterotomy,⁶ closed haemorrhoidectomy,⁷ diathermy haemorrhoidectomy,⁸ and the use of anal sphincter relaxants⁹ or metronidazole¹⁰ as well as transverse mucosal prolapsectomy using a circular stapling device by Longo.¹¹

In a poorer locality like district Swat where other advanced procedures are not possible, we tried caudal anesthesia for open haemorrhoidectomy to minimize the complications and burden of general and spinal anesthesia on the patient and to lessen postoperative pain and complications after haemorrhoidectomy. Caudal anesthesia is cheap, easily administered by surgeon and

anesthetist and has fewer avoidable complications.

MATERIALS AND METHODS

Between April 2000 and Sept 2001, one hundred consecutive patients were enrolled in the study. After obtaining informed consent, patients of either sex aged between 30 and 70 years were enrolled. All were candidates for surgical haemorrhoidectomy to treat symptomatic haemorrhoidal prolapse. Patients with concomitant anal disease like fissure, incontinence, abscess, dermatitis, fistula, crohn's disease, ulcerative colitis and rectal cancer as well as patients on oral anticoagulants, previous anal surgery and American society of anesthesiologists grade III & IV were excluded. Patients were randomized into 2 groups, group 1 received caudal anesthesia and group 2 received general anesthesia. 50 patients were given caudal anesthesia with midazolam while 50 patients had general anesthesia. Haemorrhoidal prolapse was associated with bleeding in 26% of patients in group1 and 34% of patients in group2, with anal pain in 22% and 26%, with perianal itching in 14% and 6 percent respectively.

During the operation, the hemorrhoids were prolapsed and retracted from the anal canal and the subcutaneous submucosal tissue was infiltrated with a solution of adrenaline in saline 1:200,00. A V-shaped perianal incision was made at the base of the hemorrhoids, which were dissected from internal anal sphincter up to the level of vascular pedicle. The pedicle was transfixed as described by Milligan et al.¹²

The study was divided into two phases. A perioperative and postoperative assessment lasting 5 weeks for each patient that is 1 week before and 4 weeks after the operation, to assess the outcome and to check for postoperative complications and a late assessment of the effectiveness and

results of the two techniques after 12 months.

All patients were given 10 ml of 0.5% bupivacaine. During the week before surgery patients underwent clinical examination, including proctoscopy and a clinical diary was completed that recorded the number of evacuations, the presence of blood in the stools, pain during or after evacuation and the use of analgesics. After the operation patients were instructed to take nimesulide tablets as required. A linear analogue pain scale for 0-10 was used to evaluate pain, where 0 corresponded to no pain and 10 to the worst pain imaginable. The results of the linear analogue scale were subdivided into 4 groups. Absence of pain (0), minor pain (1-3), moderate pain (4-7) and severe pain (8-10).

Any difficulty in evacuation and the level of continence were also recorded in the clinical diary. After the operation patients were discharged from hospital when free from severe pain that required intramuscular analgesia regardless of whether evacuation has occurred. Clinical evaluation and anoscopy were repeated 10 and 30 days after surgery. Time to resumption of normal working activities was recorded. Persistent symptoms of prolapse, pain, bleeding and patient dissatisfaction.

RESULTS

Ages and sex:

Out of the 50 patients in each group, there were 34 men and 16 women of mean age 49(range 30-70) years in group 1 and 31 men and 19 women of mean age 44(range 33-58) years in group 2. Mean operating time was 9.2min(7.6-14.1 min).

There was no difference in the two groups with regard to post operative hemorrhage, difficult evacuation and incontinence. While results of patients requiring

urinary catheter, constipation and the median days of bleeding were less in group 1.

One patient in group 1 with reactive bleeding required blood transfusion on the day after the operation.

Postoperative pain:

All patients received analgesia in the postoperative period. This consisted of intramuscular tramadol during hospital stay and of oral nimesulide after discharge. Patients in group 1 complained of moderate pain for a median of 3.3 days compared to group 2, which was present for 4.3 days. No patient complained of severe pain in either group.

Duration of inpatient stay:

Patients were discharged when they no longer required intramuscular analgesia. Postoperative stay was no different in the two groups. 4 patients in each group stayed longer than 24 hours due to pain.

Postoperative functional results:

All patients had normal continence before surgery and no patient in either group had incontinence as a result of surgery. Constipation was a feature in 4% patients in group1 and in 6% of patients in group 2. At

IMMEDIATE POSTOPERATIVE
COMPLICATIONS ARE LISTED IN TABLE 1

| Complication | Caudal Anesthesia (Group 1) | General Anesthesia (Group 2) |
|------------------------|-----------------------------|------------------------------|
| Hemorrhage | 3(6) | 3(6) |
| Urinary catheter | 3(6) | 4(8) |
| Difficult evacuation | 2(4) | 2(4) |
| Bleeding (Median days) | 5 | 6 |
| Incontinence | 0 | 0 |
| Constipation | 2(4) | 3(6) |

TABLE - 1

the 4-week follow up no anal stenosis or loss of anal tone was identified in either group.

Return to normal working activities:

For patients of working age 35 in group 1 and 36 in group 2, the length of absence from work was recorded. Patients in group 1 resumed normal activities after a median of 7 days as compared to a median of 8 days in group 2.

Long term evaluation:

After a period of 12 months, 3 patients in each group reported postoperatively rare prolapse. No frequent episodes in either group reported. Episodes of bleeding were reported in 9 patients in group 1 and 11 patients in group 2. Occasional episodes of pain were reported in 7 patients in group 1 and 8 patients in group 2.

Patients, who had reported persistence of prolapse, were re examined. One of the 3 patients in group 1 had hemorrhoids at secondary position while the remaining 2 in group 1 and all the 3 in group 2 had one or two residual external cutaneous fibrous folds. Therefore clinically there were no significant differences with respect to the prolapse between the two groups.

All the above results show that caudal Anesthesia if properly administered has excellent results with regard to patient tolerance, postoperative outcome and price as compared to general anesthesia.

DISCUSSION

Caudal anesthesia has been used for many years and is the easiest and safest approach to the epidural space. It is used to provide peri and post operative analgesia in adults and children. It may be the sole anesthetic for some procedures, or it may be combined with general anesthesia.¹³

The caudal epidural space is the lowest portion of the epidural system and is entered through the sacral hiatus. The sacrum is a triangular bone and consists of the five fused sacral vertebrae (S1-S5). It articulates with the 5th lumbar vertebra above and coccyx below. The sacral hiatus is a defect in the lower part of the posterior wall of the sacrum formed by the failure of the laminae of S5 and/ or S4 to meet and fuse in the midline.

Caudal anesthesia involves injection of local anesthetic into the epidural space through the sacral hiatus to obtain anesthesia of the sacral and coccygeal nerve roots. The anatomy is variable and difficulty is experienced in 5% subjects. A 21 gauge hypodermic needle is introduced through the skin and sacrococcygeal ligament in a cephalad direction along the sacral canal. Lignocaine 2% with or without epinephrine and bupivacaine 0.5% are suitable agents. In adults 10 ml of solution blocks anal sensation consistently.¹⁴

Caudal anesthesia is contraindicated in patients with pilonidal sinus as the risk of introduction of bacteria into the caudal epidural space is high.¹⁵ Other contraindications include infection near the site of injection, coagulopathy or anti coagulation and congenital abnormalities of the lower spine or meninges, because of the unclear or impalpable anatomy.

Known complications of caudal anesthesia include dural puncture, perforation of rectum, sepsis, urinary retention, subcutaneous injection, and hematoma and absent or patchy block. Caudal block is an easy and safe technique, which can be used to provide anesthesia and post operative analgesia for a wide range of surgical procedures. When performed carefully complications are rare.

The caudal block is faster if the local anesthetic solution is prewarmed and injected at 37 degrees C.¹⁶

The use of caudal anesthesia in addition to general anesthesia resulted in 79% reduction in the number of doses of papaveretum needed by the patients after the operation and a reduction by half in the period of postoperative constipation. The possible risks of caudal anesthesia are considered but it is concluded that they are outweighed by the benefits obtained.¹⁷

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