

MANAGEMENT OF PERIANAL DISEASES UNDER LOCAL ANESTHESIA

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ABSTRACT

Background: Besides anesthetic purpose, local infiltrative/field block are commonly used for pain remission after various surgical procedure. With advances in medical science, management of various perianal disorders has been reported to be possible under local anesthesia with great ease and comfort. **Aim:** We performed selective perianal minor surgical procedure under local anesthesia in the form of either pudendal or subcutaneous infiltrative technique to see any procedural complications. **Materials and Method:** After fulfilling the inclusion and exclusion criteria a total of 50 cases were selected for this prospective study and was conducted in Enam Medical College and Hospital from January, 2022 to June 2022. Both loco-regional (pudendal block) and peri-lesional subcutaneous infiltration technique were applied. A mixture of 0.5% bupivacaine and 2% lignocaine with adrenaline was used according to body weight. All the cases were observed to see any immediate procedural complications. Follow-up was made at Outpatient Department (OPD) for at least 3 months. **Results:** Out of 50 cases, only 3 patients (6%) developed procedural complications and in 2 cases (4%) the procedure had failed. **Conclusion:** In selected proctological disorders, local anesthesia can be applied with minimum procedural complications.

Keywords: Local anesthesia, Selected proctological diseases, Procedural complications.

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INTRODUCTION

A spectrum of proctological diseases like piles, perianal suppuration, fissure-in-ano etc. are quite common among general population and are commonly faced either by general or specialized proctologic surgeon¹. The traditional way for diagnosis and proper management of these diseases need exploration of anal canal under proper relaxation of anal musculatures and also in a pain free state which can be achieved properly under general (G/A) or spinal anesthesia². The peri-operative actions required for these procedures are costly and also consumes inpatient hospital

resources^{2,3}. With advances in medical science, this concept has changed and management of various perianal disorders has been reported to be possible under local anesthesia with great ease and comfort^{3,4}.

Local /loco-regional anesthesia can be obtained through subcutaneous, intradermal or submucosal injections with various local anesthetic agents⁵. The great benefit of local anesthesia is that it is suitable for the patients who are unfit for G/A or Subarachnoid spinal Block (SAB). Other benefits include quick action, easy to perform with rare systemic toxicity⁶.

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There are several studies regarding management of proctologic disorders under locoregional block^{7,8}. This study is our first experience in which we managed selective perianal diseases under local anesthesia. The aim of our study was to see any immediate procedural complications with emphasis on whether it needed conversion to any other anesthetic procedure.

MATERIALS AND METHOD

Place of study:

Enam Medical College and Hospital.

Study design:

Cross-sectional study.

Study population:

50 cases of perianal diseases.

Inclusion criteria: Adults > 18 years with any of the following disorders were included in the study: fissure-in-ano, simple fistulae with external opening within 2 cm of anal region, anal verge with palpable subcutaneous cord like structure, <5 cm perianal abscess, external thrombosed piles, perianal hematoma, anal skin tags, third/fourth degree piles. Also included were patients undergoing surgery with operation time up to 30 minutes and those unfit for G/A or SAB.

Exclusion criteria: Patients of age <18 years, unwilling to have the procedure, with complex fistulae (trans-sphincteric, supra-levator, recurrent), ischio-rectal, inter-sphincteric, > 5cm abscess size with extensive cellulitis, horse-shoe abscess, abscess that needed debridement and patients whose anticipated operation time was >30 minutes.

Pre-operative evaluation, anesthetic and surgical technique:

Cases were selected after taking proper history, clinical examination (Digital Rectal Examination, proctoscopy)

and relevant investigations. For clarification of fistula/abscess both Computed Tomography and Magnetic Resonance Imaging were done as per indication. Our goal was to block the terminal branches of pudendal nerve that supplies the sphincter muscles and perianal skin.

Those who were operated on under pudendal block, a mixture of 0.5% bupivacaine and 2% lignocaine (30 ml) with 25G spinal needle and 1.5 inch needle was used. At first a total of 6 to 8 ml circumanal subcutaneous infiltration was given. Then 25G spinal needle was introduced (5-6cm) just outside external sphincter complex (3'0 and 9'0 clock position, 7-8 ml solution) directed to the ischial spine. At last, 1.5 inch needle attached with a 10 c.c. syringe was advanced to a distance of 2-3 cm at 6'0 clock position and 12'0 clock position and 2-3 ml solution was infiltrated.

Some cases were managed with only application of local infiltration of lignocaine with adrenaline around the lesion. The patient's response to the operative stimulus in terms of complaint of pain and withdrawal movement of the body, was observed during surgery. If necessary, further infiltration of the local anesthetic solution was undertaken. No additional analgesic was used if the procedure failed. In that case, conversion to G/A or SAB was done as a rescue.

Post-Operative Management And Follow-Up

In the recovery room, every case was observed for immediate complications like bleeding, hematoma formation, urinary retention, nausea/vomiting. Follow-up was made at OPD in every 2 weeks interval to see any abscess formation or recurrence (in case of fistula) for at least 6 months.

Data Analysis

Data was collected from questionnaire and presented as number and percentages.

Ethical issue

Informed written consent was taken from every patient and ethical clearance was obtained from the institutional ethical committee.

Operational definition

Procedure failed was defined if analgesia and anesthesia was not achieved

within 5 minute of infiltration of local anesthetic agent.

RESULTS

Out of the 90 patients invited to have the procedure, 40 were excluded. Thirty (60%) underwent perilesional subcutaneous infiltration, eighteen (36%) had a preference for pudendal block, and in two cases (4%) conversion to SAB was needed which has been displayed in Table 1.

Table 1: Type of anesthesia given to the selected patients

Nature of anesthesia	Number (n)	Percentage (%)
Perilesional Subcutaneous infiltration	30	60
Pudendal block	18	36
SAB	02	04

Data expressed in number and percentage. n: number of subjects receiving each type of anesthesia.

Figure 1 demonstrates that out of the total number of patients who received perilesional subcutaneous infiltration; 20 % were suffering from perianal abscess, 10% were with pilonidal abscess and 6% were with thrombosed external piles.

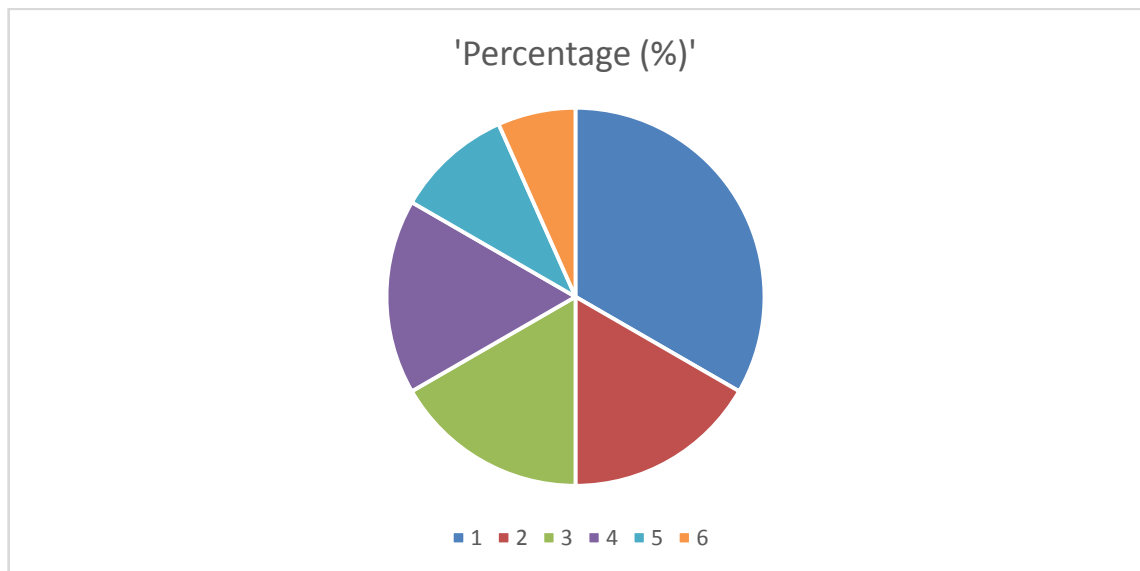


Figure 1: Pattern of diseases allocated for perilesional subcutaneous infiltration. 1: Perianal abscess (number of patient 10; 20%); 2: Pilo-nidal abscess (number of patient 05; 10%);3: Simple fistulae (number of patient 05;10%); 4: Thrombosed external piles (number of patient 05;10%); 5: Anal wart (number of patient 03;6%); 6:Anal skin tag (number of patient 02;4 %). Procedural complications were observed only in three cases. One developed urinary retention, one had hematoma during the procedure and one suffered from abscess noticed at OPD during follow-up as is shown in Table 3.

Table 3: Complications of perilesional subcutaneous infiltration.

Nature of complication	Number (n)	Percentage (%)
Haematoma	1	10
Urinary retention	1	10
Abscess	1	10

Data is expressed in number and percentage. n: number of patients that developed each type of complication.

DISCUSSION

Due to dense sensory innervation to the perianal area, anus is very sensitive to painful stimulus. So, it is logical to perform any proctological surgical procedure under proper relaxation of perianal area⁸⁻¹⁰. However, in the recent several studies it was shown that the use of local anesthesia for anorectal surgery is quite feasible^{9,11,12}. Not only ano-rectal diseases but also a spectrum of other diseases like pudendal neuralgia, pain free vaginal delivery and some urological procedures can be safely performed under pudendal block^{13,14}. While performing this type of surgery, the commonly used positioning of patients is the lithotomy or jackknife position. This position is a preference of the anesthesiologists since this allows the monitoring of the airway but this makes the vision and manipulation of surgical site quite difficult. On the other hand, perianal anesthesia allows the safe-jack-knife positioning of patient using ambulatory protocol, giving the surgeon proper view of field of operation. Thus, providing great ease and comfort to both surgeon and patient^{7,14,15}. As per previous studies, the local anesthetics commonly used for such surgeries are mepivacaine, lidocaine, bupivacaine^{7,16,17}. In this study, we used a mixture of bupivacaine and lidocaine similar to other study¹⁸. Lidocaine gives pain relief initially as it is a short acting local anesthetic while bupivacaine provides anesthesia for several hours after surgery since it is a long acting anesthetic¹⁹. Other surgeons have added adrenaline to the anesthetic which aids in vasoconstriction and decrease bleeding with in the field of

operation⁷. Adrenaline was also added to the local anesthesia applied in this study in some cases similar to the study done by Lohsiriwat V and Lohsiriwat D⁷.

According to our research, the posterior perineal block approach for local anesthesia guarantees safe and efficient analgesia both during and after surgery for the majority of carried out anorectal procedures. Several studies performed earlier have reported that there are almost no complications following posterior perianal block and is an easy to apply technique with lower cost, shorter stay at hospital and quicker return of patients to social life^{7,9,11,15,16}. In traditional text book, it is said that it is unwise to deal with the acute suppurative condition with local anesthesia^{20,21}. However, much to our amazement, it was noted that even in acute painful anorectal diseases like perianal abscess, thrombosed external piles, pilonidal abscess local anesthesia can be applied satisfactorily. No procedure is free from any kind of complications, as we also noticed in our study. Pudendal nerve block is more or less a crude procedure. Various procedural complications like haematoma, urethral /vaginal injury had been documented so far²¹. In our study, we noticed that during circumanal infiltration a haematoma was formed which was managed by cold compression and in another case small subcutaneous abscess was formed which was identified during follow-up at OPD and managed accordingly. It is seen that urinary retention is a very common problem after anorectal surgery specially done under spinal anesthesia. It can also happen due to

post-operative pain^{22,23}. The administration of local anesthetics via perianal infiltration aids in anorectal surgery to be done with very low urinary retention incidence^{7,24}. In the post-operative room, we found that in one case, urinary retention had developed and catheter was performed to relief the retention. Similar to our study, other researchers have noted low rate of urinary retention between 0-0.5%^{7,15,25}.

Post-operative bleeding is another well recognized complication after perianal surgery. In case of general anesthesia, post-operative bleeding rate may be up to 3%, in regional anesthesia 12% and following local anesthesia 0.5% - 8%^{7,8,24,26}. In the present study, we did not observe any post-operative bleeding following local anesthesia similar to studies done by Foo et al, Argov et al., and Arroyo et al^{8,15,17}.

In this study, we experienced that in two cases local infiltration failed. We could not proceed as patient was complaining pain throughout the procedure and we converted it to SAB for completion of operation. It is seen that local infiltrative anesthetic technique can fail due to inadequate dose or if it goes to incorrect tissue plane. It can also fail when patient becomes restless because of pain as infiltration goes on²³.

CONCLUSION

Perianal local infiltrative anesthesia is an easy and cost-effective procedure with minimum procedural complications. Involvement of an anesthesia team can be avoided which reduce the cost of surgery. The great benefit is that the surgeon can apply it as a part of the anesthesia and surveillance after anesthesia is easier.

LIMITATION OF THE STUDY

The main limitation of our study was that the study period was very short and sample size was also small. The long term complications of anesthetic or surgical procedure could not be evaluated.

CONFLICT OF INTEREST

There is no conflict of interest.

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