

OUTCOME OF LOCAL ANESTHESIA IN PAIN RELIEF AFTER HEMORRHOIDECTOMY

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ABSTRACT:

Background and Objective: Haemorrhoids is a common clinical problem, sometimes requiring surgery. Along with general and spinal anaesthesia, local anaesthesia can be an option in these patients which can also be used for pain relief after haemorrhoidectomy. The objective of this study was to evaluate post-operative pain relief in patients who had hemorrhoidectomy.

Methods: 300 patients who had hemorrhoidectomy were divided equally in to three groups, according to anesthesia type, group 1 (local anesthesia and sedation), while spinal anesthesia was given in group 2 and general anesthesia was used for group 3. Pain relief, post-operative complications, hospital stay time were measured and compared between the three groups. The study was performed between 2012 – 14.

Results: The study showed that patients who had local anesthesia infiltration and sedation a significant decrease of post-operative total pain scores at 6/12/18/24 hours of more than 50%, 200/240/300/320 out of 1000 patients in group II as compared to 420/500/540/580, 700/680/660/660 in 3rd groups respectively. The total post-operative analgesia doses in the 3 groups were 120:140:180 respectively, total hospital staying time were 130:210:260 days, headache in the ratio of 0:8:1, urine retention in 0:6:1 patients, nausea and vomiting in 0:1:5 patients were reduced by 30%, P-value < 0.05. On the other hand, spinal anesthesia which is group 2 showed slight decline of patients numbers who had respiratory symptoms, hypotension and urticarial.

Conclusion: Post-operative pain, analgesia, total cost, hospital staying time, nausea and vomiting have been significantly reduced by local anesthesia infiltration compared to non-infiltrated groups while spinal anesthesia had a higher rate in post-operative urine retention, headache and hypotension compared to local anesthesia with sedation and general anesthesia. Respiratory symptoms, urticaria, were slightly reduced in local anesthesia with sedation compared to spinal and general anesthesia.

Key words: Pain, local anesthesia analgesia complications, cost, hospital stay, and hemorrhoidectomy.

INTRODUCTION

Hemorrhoids are congested and dilated veins around the anorectal area and is estimated that more than three quarters of people will have hemorrhoids in their lives. Hemorrhoids are most common among adults between 4th to 6th decade. Hemorrhoids are also common in gestation.^{1,2} While one out of ten patients may require surgery.³

General or spinal anesthesia provides excellent surgical conditions for operation. On the other hand, patients may have more hospital stay, morbidity and higher costs. Moreover, they were more liable to have complications like urine retention, headache, nausea and vomiting.⁴

Local anesthesia has become a popular practice in many open surgical procedures which is also used for

postoperative pain relief.⁵ The purpose of this randomized prospective clinical study was to evaluate post-operative pain, analgesia, cost, hospital stay and complications such as: (headache, urine retention, hypotension, respiratory symptoms, urticaria, nausea and vomiting) in Hemorrhoid surgery by using local infiltration and sedation and to compare it with spinal and general anesthesia.

PATIENTS AND METHODS

Between January 2012 to December 2014, 300 patients who had hemorrhoidectomy were included in the study. All participants gave their informed consent for inclusion in the study. The patients who were given local anesthesia and sedation were informed about the procedure in details before they gave their informed

consent. The trial was approved by the local ethical committee and was performed in line with the Declaration of Pakistan Ethical and Medical Services.

The patients were divided in to three groups according to type of anesthesia used; group I was those patients who had local anesthesia, that is 20 cc bupivacaine hydrochloride 0.5% with adrenaline and lignocaine hydrochloride 2% were injected around the anal skin, and inter-sphincter plane and sedation 2 cc fentanyl and 2 cc dormecium were given intravenously. On the other hand, spinal anesthesia was used in group 2 and general anesthesia in group 3.

All patients had mean age 45 years and range (15 – 75 years), they have grade 3 to 4 hemorrhoid and there were no history of bupivacaine allergy. Post-operative anal pain severity was evaluated by score in a range (0 – 10) and recorded at 6, 12, 18 and 24 hours post-operatively.

All patients received analgesics according to a standard postoperative protocol with Diclofenac Sodium 1 mg/kg intramuscular injection or Pethidine 1 mg/kg intramuscular injection was administered on request in the ward.

The dose and time of administration of Diclofenac Sodium and Pethidine were recorded within the first 24 hours post-operatively. Hospital staying time, urine retention, headache, hypotension, respiratory symptoms, urticaria, nausea and vomiting were evaluated in the study.

Data transferred to Statistical Package of Social Science (SPSS version 16); Comparing means and cross – tabulation between three groups for subjected variables in this study to evaluate the benefits of the use of local infiltration during such a surgical procedure, considering P-value < 0.05 statistically significant.

RESULTS

Although, 307 patients were included in the study, seven patients were excluded due to no compliance of the procedure and conversion to general anesthesia was done.

The age of patients were ranged between 15 – 75 years with mean 45 years, while the patients gender was 204 males and 96 females (m/f ratio 68:32) all were distributed equally in the three groups according to anesthesia type that used (Table 1) and all patients were included in the study had Piles grade 3, 4, (202 were grade three 98 grade 4). Furthermore, there were 58:56:57 smoker and 1:1:1 alcoholic in the three groups respectively.

Total post-operative anal pain score was recorded at 6, 12, 18, 24 hours. So, it was reduced by 50% that is 200/240/300/320 in group 1 compared to 420/500/540/580 in group 2 and (700/680/660/600) in group 3, respectively (P-value < 0.001) (Table 2).

Our study showed that there were no significant

differences regarding post-operative pain among smoker versus nonsmoker and alcoholic versus non-alcoholic patients. Drugs consumption (Pethidine or Diclofenac sodium injections) in the postoperative period was significantly reduced by one third of the total injections, they were 120 in group 1 compared to 140 group 2, and 180 in group 3, respectively (P-value < 0.001), (Table 2).

The total hospital staying time was reduced by more than 30% it was 210 and 260 days in group 2 and 3 compared to 130 days in group 1 (P-value was < 0.001), (Table 2).

Those patients who had urine retention, headache and hypotension were much higher in group 2 (6:8:3) compared to group 1 and 3 (0:0:1) and (1:1:1) respectively. On the other hand, there were more respiratory symptoms, urticaria, nausea and vomiting in group 3 (4:2:5) compared to (0:1:0) and (1:1:1) in group 1 and 2 respectively (Table 3). While there were no patient who had bradycardia nor wound infection in the study.

So the P-value was significantly reduced in group 1 compared to group 2 and 3 for urine retention (0.11), headache (0.001), nausea and vomiting (0.028), while it was not the case for respiratory symptoms, urticarial and hypotension who had p-value (0.071), 0.776) and (0.443) as per groups respectively.

DISCUSSION

Hemorrhoidectomy can be performed safely as day – case under general anesthesia; however, complications may result from general anesthesia especially in advanced age while caudal or spinal anesthesia has been used as an alternative to general anesthesia for hemorrhoid surgery, but all of them require a trained anesthetist and have numerous complications.⁶

Furthermore, spinal headaches may occur in up to 40 percent of those who undergo a spinal tap.⁷ It is found that the rate is more in young age patients, female, needle size⁸ and this may lead to restrict daily activities and more hospital stay.

Lignocaine provides potent initial pain relief, and adrenaline reduces bleeding in the operative field due to vasoconstriction. Lignocaine with adrenaline provides enough time for not only hemorrhoidectomy but also transportation to home.⁹

This study is correlated with other studies by combination of local anesthesia perianal blockade and sedation, in anorectal surgery which allows less requirement of intravenous fluid administration that result in less incidence of urinary retention.¹⁰ On the other hand spinal or caudal anesthesia and pudendal (ischio-rectal nerve blocks) may result in urinary retention with the reported incidence which varies widely, from < 1% to > 50%.¹¹

Spinal anesthesia may cause hypotension and correction of the condition by excessive intravenous fluid infusion may lead to over extension of urinary bladder.

This inhibits detrusor function, and normal reflex is not restored even after emptying urinary bladder with a catheter.¹²

Early ambulation and doctor patients' interaction during the procedure were noticed in group 1 of this study as they were mentioned in other studies.¹³

It is **concluded** that hemorrhoidectomy by local anesthesia and sedation is an alternative mode of anesthesia that surgeons can safely carry out on their own. It was associated with a shorter hospital stay, lower pain scores and less post-operative analgesic doses. It has lower post-operative complications (respiratory symptoms, nausea and vomiting) than general anesthesia. Local perianal nerve block for hemorrhoidectomy is feasible and safe, cost effective, and superior to spinal block due to a lower incidence of post-operative urinary retention, headache and hypotension.

Author's Contributions

All the authors have contributed equally in the study and writing the manuscript. The final manuscript has been seen and approved by all authors.

Conflict of Interest

We have no conflicts of interest to declare and no funding has been received for this study.

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