

Comparative study between General Anesthesia and Local Anesthesia of Groin Hernia Repair in Sisaket Hospital : A Prospective Study

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Abstract :

Background/Purpose : Inguinal hernia repair is the most common elective surgical procedure in Sisaket hospital. In the past; anesthesia of choice for herniorrhaphy in Sisaket hospital is general anesthesia and pain is common side effect. Painful interventions may have a serious adverse psychologic impact. The aim of this study was to compare (amount of opioid drug, first dose analgesic drug, post operative interval to discharge, time to first ambulation, operative time, return to work, age, size) between general anesthesia herniorrhaphy and local anesthesia herniorrhaphy plus intravenous anesthesia during retracts spermatic cord.

Research design : Prospective study

Method : 30 patients unilateral inguinal hernia patients in Sisaket hospital during 1 May 2004-1 November 2004, aged 18 to 92 years were placed non-randomly into 2 groups herniorrhaphy. Group I : 15 patients had given 0.5% Bupivacaine 20 ml local injection plus intravenous analgesia when retract spermatic cord. Group II : 15 patients had given general anesthesia.

Results : comparative study between group I and group II; Opioid drug decreased significantly in local anesthetic herniorrhaphy ($p<0.05$) and shown to require shorter post operative interval to discharge. Time to first ambulation faster than group II significantly ($p<0.001$) and it prolonged first dose analgesic drug significantly ($p<0.001$). Age group, size, operative time and time to work was no significant difference between group I and group II.

Conclusion : Local anesthesia herniorrhaphy is effective and simple method of relieving postoperative pain

Keywords : Inguinal herniorrhaphy, local anesthesia, General anesthesia, postoperative pain

Introduction

Inguinal hernia repair is the most common elective surgical procedure performed on adult in Sisaket hospital. Post operative pain delays the return to a normal level of activity and thus delays discharge. The use of major analgesic drugs, although effective in controlling post operative pain, increases the incidence of nausea, vomiting, and respiratory depression and causes undesired section. Recent studies have focused on the clinical implications of preemptive analgesia(local analgesia given before general anesthesia (GA) for the management of post operative pain).^{1,2}

Materials and method

$$\text{Sample size : } z = \frac{(\bar{x} - \mu)}{\frac{\delta}{\sqrt{n}}}, n=29$$

The study design was single blind, and Quota sampling techniques. In this study, 30(2 groups of 15) male patients aged 18 to 92 years. American Society of anesthesiology(ASA) Physical status I undergoing unilateral inguinal hernia

repair were included. Patients consent were obtained, herniorrhaphy was performed by one surgeon. Patients with bilateral or recurrent hernia, undescend testis, incarcerated hernia or an allergy to local anesthetic were excluded. Group I : There were 15 patients receiving 0.5% bupivacaine 20 ml subcutaneous infiltrate to incisional site(Skin, subcutaneous, fascia and hernial sac) and intravenous anesthesia, under mask during retract spermatic cord. In group II : There were 15 patients receiving general anesthesia induced by inhalation agent, O₂ plus N₂O using endotracheal tube,

Pain measurement : Assessment by time to first dose analgesic drug, amount of opioid drug, time to first ambulation, postoperative interval to discharge and return to work.

Statistical analysis : SPSS for windows (paired t test) was used to determine differences between the 2 groups of patients. All values were expressed as mean and a probability values of p<0.05 was considered significant.

Results :

Table I

Data	Group I	Group II	
Age (year)	61.3±13.6	57.3±19.5	p>0.05
Size (cm.)	5.0±0.6	4.9±0.6	p>0.05
Operative time(min)	35.4±6.4	35.3±4.8	p>0.05
Return to work(day)	9.1±3.9	8.2±2.5	p>0.05
First ambulation(hr.)	7.8±2.5	13.4±4.9	p<0.001*
Opioid drug (mg)	3.3±12.9	23.3±25.8	p<0.05*
Post operative interval to discharge (hr.)	12.7±2.0	27.3±14.0	p<0.05*
First dose analgesic drug (hr.)	11.5±2.0	4.2±1.4	p<0.001*

Note : values express as mean±SD

* statistically significant (p<0.05)

There were no significant differences between 2 groups with regard to age, size, operative time and time to return to work (Table I). Amount of opioid drug decreased significantly in group I and shown to required shorter postoperative interval to discharge (p<0.05). Time to first ambulation in group I faster than group II. This difference was statistically significant (p<0.001) and prolonged first dose analgesic drug significantly (p<0.001) (Table I).

Discussion

One best technique for anesthesia for herniorrhaphy if would be local. It is chosen technique at many procedures. Contraindications to local anesthesia are few and include patient refusal, some complex or irreducible hernias, laparoscopic hernia repair and psychiatric patient of all techniques it has the least impact on the function of other organ systems, not require expensive preoperative laboratory work up⁴. Some studies have reported a large series of unselected patients in whom no preoperative testing was performed at all, excepting those patients with DM or on coagulant therapy.

Local anesthesia is shown to require the shortest postoperative interval to discharge. Cardiovascular instability an urinary retension in post operative peroid occur at very low rate^{4,5}. Large amounts of local anesthetic renders the tissue somewhat boggy and distended, hindering the identification and dissection, certain structures are difficult to anesthetized completely (particularly cord structures). In the past; anesthesia of choice for herniorrhaphy in Sisaket hospital is general anesthesia or spinal block. In this study the patients were given local anesthesia and intravenous anesthesia for decrease severe pain and anxiety during retracted spermatic cord. The results of this study shown that this technique has significantly decrease in amount of opioid drugs ; shorter post operative interval to discharge; prolong first dose analgesic drug and faster time to first ambulation when compare to general anesthesia. For this reason; in the future, herniorrhaphy in Sisaket hospital may be performed by local anesthesia plus intravenous analgesia when retract spermatic cord in OPD case.

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