

The Effect of Ilioinguinal Nerve Block with 0.5% Bupivacaine on Postoperative Analgesia after General Anaesthesia in Obstetric Patients.

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ABSTRACT

A case controlled prospective randomized single blind study was carried out to see the effects of bilateral ilioinguinal nerve block with 0.5% bupivacaine on postoperative pain and analgesic requirements. The intensity of pain was assessed postoperatively on visual analogue scale in 80 patients of comparable characteristics who underwent caesarian section with Pfennansteil incision under general anaesthesia. About eighty percent patients in control group demanded analgesics within an hour of their arrival in the ward and their requirements for systemic analgesics were found high during the immediate postoperative period. Ilioinguinal nerve block reduced the pain scores and analgesic requirement for almost first 12 hours in 80% of the patients during the postoperative period. Statistically on the basis of the value (21.86) of Z-test applied, to analyze the results, it was concluded that the bilateral ilioinguinal nerve block is an efficient method on an average, for postoperative pain relief.

Key Words: Anaesthetic technique, regional ilioinguinal nerve block, Pain: postoperative.

INTRODUCTION

Postoperative pain has often been underrated, or deliberately neglected¹ with an unfounded fear of opioid addiction, ventilatory depression, vomiting, and a prolonged hangover from synergistic action of drugs used during general anaesthesia. Narcotics used for postoperative pain relief are often inadequate and associated with hectic recovery. To avoid these problems and on request of certain patients who had had bad experience of pain after the previous caesarean sections, nerve block technique was used to relieve the postoperative pain. A control of blood pressure was also achieved as an additional advantage particularly in patients who had pregnancy induced hypertension. The extradural analgesia has been used to treat postoperative pain as an

adjuvant to general anaesthesia or as the sole anaesthetic for surgery, with a disadvantage of sympathetic and possible motor block accompanying the sensory block. Bilateral ilioinguinal nerve block usually does not produce autonomic effects but is associated with motor block, which can be disregarded in this setting, so this technique was preferred. The problem of inadequate analgesia was anticipated if the skin incision extended beyond the dermatome level supplied by the relevant blocked nerve.

PATIENTS AND METHODS

80 patients of comparable age, height and weight were studied, who underwent elective caesarean sec-

HOUSR	MID-VALUES OF HOURS	NO. OF PATIENTS n=80	
		TREATMENT BLINB n=40	TREATMENT CONTROL n=40
0-1	0.5	0	32
1-4	2.5	0	8
4-8	6	8	0
8-12	10	29	0
12-16	14	3	0
16-20	18	0	0
20-24	22	0	0

Mid values of hours were derived to complete the calculations of Z-test.
Considering the level of significance at a value of 0.05.
The calculated value of Z=21.86, had exceeded the critical value i.e. 1.645.
It was concluded that on an average, analgesia achieved by bilateral ilioinguinal nerve block proved to be a more efficient treatment.

tion under general anaesthesia. An informed consent was obtained, patients were allocated randomly into two groups to receive bilateral ilioinguinal nerve block (group BLINB, n=40) and a control group (group C, n=40) who received no local anaesthetics postoperatively. Before

operation, all patient were shown a visual analogue scale (VAS) a 10cm line, and were instructed to place a mark on this line to indicate their degree of pain. They were also instructed to demand analgesics as and when needed. Anaesthesia was induced with sodium thiopentone and tracheal intubation was done under the effect of suxamethonium. Anaesthesia was maintained with 50% nitrous oxide in oxygen and 0.5% halothane. Pethidine 60mg was injected to all the patients soon after the umbilical cord had been tied and cut. Pancuronium bromide was used to achieve muscle relaxation. All the ilioinguinal nerve blocks were performed with a disposable syringe; according to the accepted technique²; using 0.5% Bupivacaine (Abbot Laboratories) 10ml on each side. After the operation, the patients were given Inj diclofenac sodium IM on demand, during the first 24 hrs and Tab mefenamic acid 250 mg or diclofenac sodium 75mg, orally on subsequent request of patients. During the first 24 hrs after surgery, every patient was asked to complete VAS at 4 hourly intervals. The amount of diclofenac sodium administered in each patient was noticed. The staff administering the analgesia and linear analogue scale was not aware of the treatment the patient had received. The amount of tab mefenamic acid or tab diclofenac sodium in 24 hrs was noted.

RESULTS

It was observed that only 9 {20%} patient who received BLINB had demanded subsequent analgesia at eight hours. 33 {73.3%} of these patients requested for supplements of analgesia, from 8 to 12 hours and another 3 (6.7%) patients demanded systemic analgesics after 12 hours of the initial nerve block (Fig.1). It was observed that about 80% patients remained pain free for almost 12 hours on the average. Whereas almost 80% patients in control group started a request for analgesia supplements while they were still in the recovery area, and these patients had to be given injection diclofenac sodium i.m. within an hour, and only 20% patients of this group could wait more than an hour till they demanded systemic analgesia. (Table-1) On application of the calculated value of Z-test (21.86) it was it was concluded that the bilateral ilioinguinal nerve block is an efficient method on an average, for postoperative pain relief.

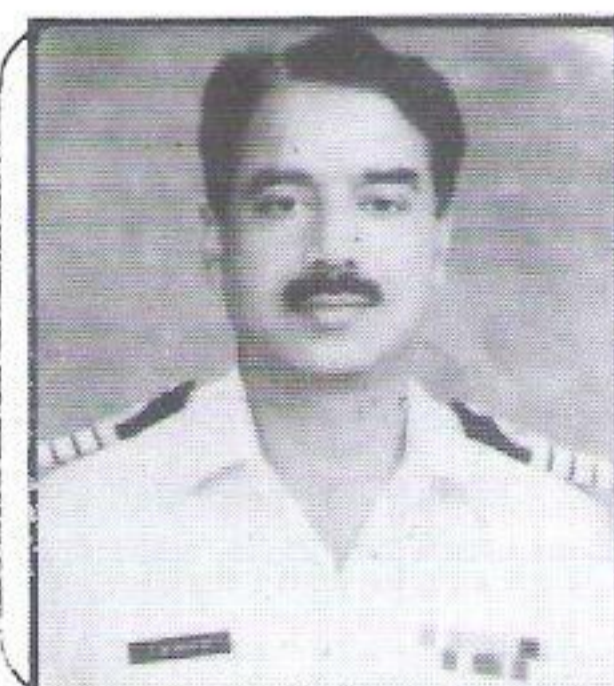
DISCUSSION AND CONCLUSION.

Pain is defined as an unpleasant sensory and emo-

tional experience associated with an actual or potential tissue damage³. Pain tolerance and behaviors are influenced by social, cultural, individual and ethnic factors. Relief of pain has always been a concern of mankind. Various methods of pain relief have been used, e.g. psychological and related methods, pharmacological methods and physical methods. With the advent of local anaesthetics, regional techniques became one of the most important pharmacological ways to relief pain. In our study two pharmacological methods have been compared. We tried to address the problem of finding a more efficient method of pain relief. Post caesarian pain relief with a bilateral ilioinguinal nerve block was found a superior method as far as the quality of analgesia and cost effectiveness is concerned but the expertise is required to practice this technique. Although the amount of diclofenac needed in patients of both the groups was based on the subjective assessment of pain as indicated by VAS, still the duration of pain free period was found to be longer with bilateral ilioinguinal nerve block i.e., upto 12 hours in 80% patients of BLINB group. This could be because of the prolonged duration of action of the bupivacaine⁴. The findings of this study that bilateral ilioinguinal nerve block provided a better postoperative analgesia are consistent with the result reported by Bunting and McConachie⁵. Patients remained quite comfortable during the immediate postoperative period with a stable pulse and blood pressure. However analgesia remained inadequate if the incision extended beyond the dermatome supplied by the concerned nerve.

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