

# THE EFFECTIVENESS OF INTRA OPERATIVE WOUND INFILTRATION WITH LONG ACTING LOCAL ANAESTHETIC

Riaz Anwar Khan, Nayyar Waseem, Jalal Khan, Parvez Manan,  
Sohail Aslam and Khalid Rehman

*Department of Cardiovascular Surgery,  
Postgraduate Medical Institute,  
Lady Reading Hospital, Peshawar*

## SUMMARY

*Postoperative pain relief is of importance to both patients and surgeons. One of the simpler techniques is infiltration of the surgical incision with long acting local anaesthetic after completion of operation. This study was carried out from October 1995 to December 2001, 30 female and 17 male underwent uncomplicated bilateral Spheno-femoral ligation. They all received intra operative bupivacaine infiltration into their groin incisions. Postoperative patients were asked to assess a number of variables relating to their postoperative pain. There was no significant difference in the postoperative pain experience between the bupivacaine infiltrated groin incisions and the other groins. Our study was unable to show the benefit of infiltrating bupivacaine in the groin incisions.*

## INTRODUCTION

Postoperative pain is a significant cause of morbidity in patients undergoing any type of surgery.

Postoperative adequate analgesic is vital to ensure patient comfort, to encourage early mobilization and to reduce

hospital stay. Many techniques have been applied to obtain the best pain control and quick mobility of the patients. One of the simpler techniques is infiltration of the surgical incisions with local anaesthetic.<sup>1-4</sup> Subcutaneous catheter with intermittent injections of small doses of local anaesthetics has also been tried. Results are inconclusive with some reports attesting to

the value of local anaesthetic agents<sup>3,4,6</sup> and other disputing demonstrable benefits of pain control. Epidural anaesthesia is recognized as one of the best for major surgeries. Although there are a number of studies but the problems of individual variation in the patient's pain perception has invalidated most studies.

## MATERIAL AND METHODS

47 patients: 30 female age (mean 18-34 years), 17 male age (mean 15-28 years) had one groin incision infiltrated with 15-20 mls of 0.5% bupivacaine with 1:200:000 adrenaline, for uncomplicated primary bilateral Saphenofemoral junction ligation for varicose veins. The patients were unaware as to which groin incision had been infiltrated. All the patients underwent same operative techniques, suture materials. Bupivacaine 0.5% with adrenaline 1:200;000 (15-20mls) was injected into subcutaneous tissue immediately prior to wound closure. Patients were asked to let the medical staff know for the pain in either groin. At the postoperative review 2 weeks following surgery both groins were also compressed for any complications of operation (infection, haematoma etc.).

## RESULTS

All these patients had multiple excisions of varicose veins in the distal legs. In all patients, the most painful site was one or both groins and not elsewhere in the leg. No difference in pain experience between groins was noticed in 24/30 female patients and 11/17 male patients. In female group 4/30 and in male group 5/17 the groin infiltrated with bupivacaine was less painful. Only 1/2/30 in female and 1/17 in male group noticed that the control groin i.e infiltrated was less painful. Seven patients developed wound infections on the

infiltrated side. There were no wound haematoma noticed till the 14<sup>th</sup> Postoperative days.

## DISCUSSION

Although there is a wide variation in the perception of pain, factors influencing the severity of the pain experience by a patient may vary from person to person. These include age, sex, race, personality, past experience and tolerance to pain.<sup>7</sup> A number of studies have examined the benefits of local anaesthetic agents infiltrated into surgical incisions for postoperative pain control in variety of surgical procedures. This study included the patient with varicose veins requiring bilateral Saphenofemoral ligation. Many of the surgical techniques previously reported involve tearing, splitting or cutting of muscles and or deep fascia, thus increasing number of sites from which postoperative pain arises. Saphenofemoral junction ligation essentially involves the superficial structure of skin and superficial fascia, so theoretically reduces the painful stimuli. If Bupivacaine is to be effective in post-operative pain relief, it is likely to be so in ligation of Saphenofemoral junction.

Our study has not demonstrated the beneficial effect from infiltration of bupivacaine in the skin incisions. Though this study is small and a larger study might reveal a statistically significant benefit of bupivacaine infiltration of skin incision.

## REFERENCES

- 1 Victory RA, Gajraj NM, Van Elstraete A et al. Effect of preincision versus post-incision infiltration with bupivacaine on postoperative pain. *J Clin. Anesth.* 1995; 7:192.

- 2 Dierking GW, Dahl JB, Kanstrup L et al. Effect of pre-vs. Postoperative inguinal field block on postoperative pain after herniorrhaphy. *Br J Anaeth.* 1992; 68: 344.
- 3 Ejlersen E, Anderson HB, Eliassen K, et al. A comparison between pre-incisional and post-incisional lidocaine infiltration and postoperative pain. *Anesth. Analg.* 1992; 74: 495.
- 4 Owen H, Galloway DJ, Mitchell Kg, Analgesia by wound infiltration after surgical excision of benign breast lump. *Ann. R. Coll. Surg. Engl.* 1985; 67: 114.
- 5 Cameron AEP, Cross FW. Pain and mobility after inguinal herniorrhaphy: Ineffectiveness of subcutaneous bupivacaine. *Br J Surg.* 1985; 72: 68.
- 6 Hashemi K, Middleton MD. Subcutaneous bupivacaine for postoperative analgesia after herniorrhaphy. *Ann. R. Coll. Surg. Engl.* 1983; 65: 38.
- 7 Knight CL, Mehta M. Postoperative pain relief. *Br J Hosp Med* 1978; 19: 462.