ORIGINAL RESEARCH PAPER
Volume - 9 | Issue - 9 | September - 2020 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

EFFICACY OF INTRA ARTICULAR DEXAMETHASONE AS AN ADJUVANT TO BUPIVACAINE FOR POST OPERATIVE ANALGESIA IN ARTHROSCOPIC KNEE SURGERIES

Anaesthesiology

Dr. Trupti D Shah Associate Professor of Department of Anaesthesiology, Civil Hospital, BJ Medical College, Ahmedabad.

Dr Ishani shah Resident doctor, Department of Anaesthesiology, Civil Hospital, BJ Medical College, Ahmedabad.

Dr Sraddha Prajapati* Resident doctor, Department of Anaesthesiology, Civil Hospital, BJ Medical College, Ahmedabad. *Corresponding Author

ABSTRACT

A significant number of patients experience moderate to severe pain 24 hours after knee arthroscopy.
Dexamethasone is potent and highly selective glucocorticoid with minimal mineralocorticoid effect. Studies have shown that dexamethasone increases the duration of regional blocks, when combined with local anesthetics. Therefore, it is expected that such a beneficial effect of dexamethasone can be manifested when it is injected in combination with bupivacaine to intra-articular spaces.
The primary aim of this clinical study is to evaluate the analgesic effects of intra-articular dexamethasone administered as an adjuvant to bupivacaine comparing it with analgesic effect of intraarticular bupivacaine with normal saline in two groups of patients undergoing arthroscopic knee surgery.

KEYWORDS

Dexamethasone as an adjuvant with bupivacaine,arthroscopic knee surgeries,post operative pain management.

INTRODUCTION:

The pain after knee arthroscopy is caused by irritation of free nerve endings of the synovial tissue, anterior fat pad present intra articularly and joint capsule due to surgical excision and resection .The intra-articular route of drug administration utilises the peripheral receptors,is site specific and effective modality for postoperative analgesia. Intraarticular bupivacaine is most preferred local anaesthetic with or without adjuvant for post arthroscopic pain relief.

MATERIALS METHODS:

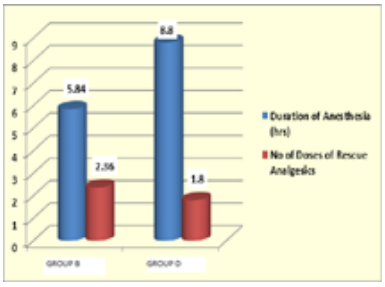
Study was conducted on 50 patients, two group.

Preoperative evaluation done on the day before surgery.

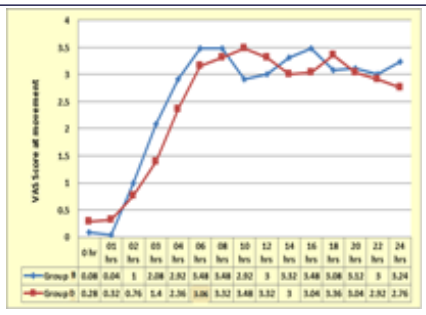
- Patients were randomly allocated into following 2 groups according to the drugs given intra articularly.
- GroupB : (BUPIVACAINE) 18ml of 0.25% bupivacaine.
- GroupD (DEXAMETHASONE+BUPIVACAINE): 8mg(2ml)of dexamethasone added to 18mlof 0.25%bupivacaine.
- Patient received no premedication before arrival.

Under all aseptic and antiseptic precautions, spinal anesthesia was given with inj. bupivacaine 0.5% (heavy) 3.4ml in the sitting position using a 23-gauge Quincke spinal needle positioned at the L3-L4 interspace.

- Intraoperative Vitals monitoring done
- The study drug was deposited intra-articularly in an aseptic manner by the operating surgeon through the trocar and time was noted.
- Patients were monitored post operatively.
- Pain assessment was done using the Visual Analogue Scale with 0 to 10 cm score (0= No Pain, 10 = Worst Possible Pain) at 1hr, 2hr,3hr,4 hr and then 2 hrly upto 24 hr.



Recovery time from spinal anaesthesia was noted. The patients were monitored to recognize any dexamethasone and/or Bupivacaine induced side effects during the post operative period.



DISCUSSION:

The choice for dexamethasone was made on the basis of its potent anti inflammatory effect than other corticosteroids.it can also inhibit prostaglandin synthesis and increase release of endorphins.

Dexamethasone blocks the nociceptive impulse transmission along the myelinated C fibers. Studies have shown that dexamethasone increases the duration of regional blocks, when combined with local anesthetics. Therefore, it is expected that such a beneficial effect of dexamethasone can be manifested when it is injected in combination with bupivacaine to intra-articular spaces.

Various adjuvants with local anaesthetics have been tried and advocated for intraarticular use following knee arthroscopy.Fentanyl and morphine as a adjuvant have been tried.

Dexamethasone(8mg) when administered as an adjuvant to bupivacaine(0.25%) via intraarticular route is highly efficacious drug as it,

1. Results in lower pain scores
2. Increased time to first analgesic request,
3. Prolonged duration of analgesia,
4. Decreases need for postoperative analgesics,
5. Has minimal side effect and no effect on hemodynamic parameters when used in low dose.

CONCLUSION:

Intraarticular use of Inj. dexamethasone(8mg) is an effective adjuvant to bupivacaine for post operative analgesia following arthroscopy of the knee joint.

REFERENCES:

1. Durand A; Richards CL; and Malouin F: Strength recovery and muscle activation of the knee extensor and flexor muscles after arthroscopic meniscectomy. A pilot study. Clin. Orthop., 262: 210-226, 1991
2. 16. Dye SF.; Vaupel GL and Dye CC: Conscious neurosensory mapping of the internal structures of the human knee without intraarticular anesthesia. Am. J. Sports Med., 26: 773-777, 1998.