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"COMPARISON OF ANALGESIC EFFECT OF INTRAMUSCULAR NALBUPHINE AND TRAMADOL IN POST OPERATIVE PAIN"

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ABSTRACT Pain is omnipresent; is an intolerable sensation, which make patient vulnerable. It is well documented that pain is often inadequately treated, can be deleterious and can lead to number of complications in post-operative period. Nalbuphine and Tramadolare the drugs which we had compared here for there efficacy in postoperative analgesia and there side effects. IM Nalbuphine is safe and effective alternative for relief of moderate to sever postoperative analgesia compared to IM tramadol in equianalgesia doses.**Aims:** To Evaluate the efficacy and safety of IM Nalbuphine and Tramadol for the purpose of post-operative analgesia and to note Onset of action, Duration of action, Quality of analgesia, Effect on hemodynamic parameters and Side effects.

KEYWORDS : Nalbuphine, Tramadol, Post-operative pain, Analgesia.

INTRODUCTION:

Postoperative pain is the most frequent complaint of surgical patients in post-operative settings. Different modality used for post- operative pain relief like epidural, spinal, intravenous, intramuscular and transdermal.

Intramuscular Nalbuphine and Tramadol are drugs which we had compared here for efficacy in post- operative analgesia and side effects. Nalbuphine is agonist action on kappa receptor and antagonist or partial agonist action on mu receptor. Tramadol is centrally acting analgesic, has weak affinity for central opiate receptor (especially mu type).

MATERIALS AND METHODS :

Patients were randomly divided into 2 groups of 30 each based on computer generated random number, pre-operative evaluation done a day before surgery. With thorough history and detailed examination, all routine investigations like random blood sugar, CBC, renal and liver function tests, serum electrolytes, Chest X Ray, 12 lead ECG.

After arrival into operation theatre, IV access established. Patients pre-medicated with Inj. Glycopyrrolate 0.004mg/kg and Inj. Ondansetron 0.15mg/kg. Pulse rate, systolic and diastolic blood pressure, mean arterial pressure and spo2 were recorded.

Group N received Inj. Nalbuphine0.15mg/kg IM and Group T received Inj. Tramadol 2mg/kg IM. These analgesic were given 30mins before extubation. Patients were preoxygenated for 3-5 minutes using 100% O2 with bain's circuit. Induction done by Inj. Thiopentone sodium 4-6 mg/kg and Inj. Succinyl choline 1-2 mg/kg. Intubation carried out with an appropriate size ET tube. Anaesthesia maintained by 50% O2, 50% N2O, 1% Sevoflurane and Inj. Vecuronium 0.08mg/kg IV. After completion of surgery, patient was reversed using Inj. Glycopyrrolate 0.008mg/kg IV and Inj. Neostigmine 0.05mg/kg IV and extubated after proper respiration and simple follow verbal commands. Analgesic was given 30mins before extubation.

Post-operative pain was assessed for 24 hrs after surgery, using visual analogue score(VAS) where 0=No pain and 10= wrost imaginable pain. Good pain relief is defined as VAS <4, Rescue analgesic Inj. Diclofenac sodium(2mg/kg) was given when VAS >4.

In post op recovery room, Heart rate, Respiratory rate, Noninvasive blood pressure, VAS, Time taken to 1st rescue analgesic and side effects like Nausea, Vomiting; were recorded at 0min, 30min, 1, 2, 4, 6, 8, 12, 18, 24hours post operatively.

RESULTS:

Post-operative VAS score in group T is higher at 6hrs (4.03±0.61) compared to (2.46±0.50) group N and at 8hrs group N have higher value (4.06±0.58) compared to (3.06±0.69) group T; with p value <0.05 suggestive of need for rescue analgesia. Time of rescue analgesia is prolonged in group N (8.71±0.56) compared to group T patients (7.31±0.35) with p value <0.0001, showing significant difference in duration of effect of both drugs. Patients receiving Tramadol (8/30) have higher incidence of nausea and vomiting as compared to Nalbuphine (2/30) (p=0.0268). Tramadol receiving patients shows more changes in hemodynamic parameters when VAS score rises as compared to Nalbuphine receiving group suggestive of Nalbuphine provides good sedation to prevent changes in hemodynamics parameters when VAS score rises. Incidences of severe sedation and respiratory depression was not found in any drug groups.

DISCUSSION:

Effective pain control is essential for optimum care of the patients in the postoperative period. Different routes for postoperative pain relief are like epidural, spinal, oral, intravenous, intramuscular and transdermal etc. Intramascular route is the simple and can be used without peripheral venous access in perioperative period.Different drugs have been used for postoperative pain relief like opioids, NSAIDs, paracetamol, local infiltration. Nonsteroidal anti inflammatory drugs (NSAIDs), which acts by inhibiting prostaglandin synthesis to achieve analgesic and anti-inflammatory action, but are associated with poor gastrointestinal and renal tolerance and the risk of interference with coagulation systems.Opioids have long been the mainstay of therapy for the treatment of acute postoperative pain, especially for moderate to severe pain. Inadequately treated pain can result in various complications like atelectasis / pneumonitis /hypoxemia,deep vein thrombosis, delayed recovery of bowel function, myocardial ischemia and infarction, urinary retention and residual psychological trauma. That is why pain relief in perioperative period is very important. So in this double blind prospective randomised study, with aim to provide postoperative pain and study efficacy of intramuscular Tramadol and Nalbuphine.

CONCLUSION:

IM Nalbuphine is safe and effective alternative for relief of moderate to severe postoperative analgesia compared to IM Tramadol in

equianalgesia doses; which results in prolonged duration of analgesia with minimum circulatory effects, good sedation and significantly lower side effects.

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