INTRATHECAL MORPHINE AS POSTOPERATIVE ANALGESIA FOR KNEE ARTHROPLASTY

Retrospective study of pain control and side effects

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BACKGROUND:

Intrathecal morphine (ITM) is an effective analgesia technique used in surgeries since 1979 as treatment of postoperative acute pain. Total knee arthroplasty is a common surgery in older patients with expected intense postoperative pain both in rest and in movement. ITM as proved a 12 to 24 hours period of effective analgesia, using doses between 0,0025mg and 0,2 mg ^(A) in orthopaedic surgery . The use of intrathecal association of two types of opioids has been questionable for its analgesic benefit or tolerance effect or as potencial increase of side effects.

The aim of this retrospective study is both to show if the association of two intrathecal opioids has an improvement of analgesia and/or increase of side effects, compared to their use alone.

METHODS:

Population sample: 60 patients
Ages: 58-87 years old
ASA: II and III
Surgery: Total Knee Arthroplasty
Anesthesia: Spinal Block

PONV prophylaxis

2 or 3 antiemetics, according to Apfel Score:

- Dexametasone 4mg
- Droperidol 0,625mg
- Ondansetron 4mg

Group A (n =21)

Hyperbaric Bupivacaïne
+
0,0025mg Sufentanil
+
0,2 mg Morphine

Vs

Group B (n=39)

Hyperbaric Bupivacaïne
+
0,0025mg Sufentanil

Intra-op Analgesia

- NAIDs
- Acetaminophen 1g
- Metamizol 2g

Post-operative Analgesia

- Tramadol 8mg/ml + Droperidol 0,025mg/ml perfusion (2ml/h for 48h)
- Acetaminophen 1g 8/8h
- NAIDs 8/8h

All data were recorded at 24 and 48 postoperative hours, treated with t-Student statistics analisys, using $p < 0,01$.

RESULTS:

- ✓ There was no significative statistic difference between the two groups in terms of pain control defined as VAS <4 ($p=0,05$ for 24h in rest; $p =0,13$ for 24h with movement; $p=0,35$ at 48h in rest and $p=0,48$ at 48h in movement).
- ✓ There were no statistic evidence of the increase of nausea and vomiting ($p=0,2$), urinary retention ($p=0,3$) and gut ileus ($p =0,11$) associated to the administration of two intrathecal opioids. However, the data shows statistic increase of pruritus associated to the combination of Morphine and Sufentanil ($p<0,01$).
- ✓ Patients documented satisfaction superior to 75% (good and very good) for both groups.

PAIN SCORE (VAS)

SIDE EFFECTS

PATIENT SATISFATION

CONCLUSION:

According to our study Intrathecal Morphine (0,2 mg) brings no benefit to the analgesic effect. Statistical results demonstrate there is only an increase of pruritus as result of the association of the two intrathecal opioids. There were no evidence of a significant increase on the other side effects.

References: (A)Rathmell, J *et al* - Intrathecal Morphine for Postoperative Analgesia:A Randomized, Controlled, Dose-Ranging Study After Hip and Knee Arthroplasty, *Anesth Analg* 2003; (B) Frassanito, L *et al* - Post-operative analgesia following total knee arthroplasty: comparison of low-dose intrathecal morphine and single-shot ultrasound-guided femoral nerve block, *Eur Rev Med Pharmacol Sci* 2010; (C) KJİçkaya, R *et al* - Comparison of the Effects of Intrathecal Fentanyl and Intrathecal Morphine on Pain in Elective Total Knee Replacement Surgery, 2016