REGIONAL ANESTHESIA FOR PEDIATRIC LOWER LIMB SURGERY

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Background and Goal of Study

Paediatric Spinal Anaesthesia is a safe alternative to General Anaesthesia for lower limb surgery. Emerging data demonstrate feasibility, efficacy and safety of Peripheral Nerve Blocks (PNBs) in children.

We present results of a perioperative protocol in pediatric orthopedic surgery with patients aged **between 5 and 14 years** undergoing **spinal anesthesia** while under sedation and receiving a **single-shot of US/ENS** guided sciatic nerve block.

Materials and methods

381 lower limb surgery corrections (Flat Foot and Tibial Osteotomy) were performed between April 2012 and December 2016.

Children were **206 male and 175 female**, ASA I, **from 5 to 14 years old**.

Signed consent forms were collected from both parents during the pre-hospitalisation visit.

Patients were premedicated **one hour before surgery with midazolam syrup 0.5mg/kg**.

We monitored standard vital signs and made **IV sedation with ketamine 2mg/kg, atropine 0.01mg/kg and midazolam 0.05mg/kg iv**.

Children received spinal anesthesia with **levobupivacaine 0.3mg/kg, by US identifying L4/L5 level**.

We performed the **ENS/US-guided single shot** sciatic nerve block (subgluteal approach) by using **levobupivacaine 1.5mg/kg** per side.

Surgery had an average duration of **25 min±10** per side.

Once a plaster cast was fitted total OR time was **90 min±15**.

Before discharging we evaluated vital signs and level of sedation using the **Scale of sedation (SS) with Bromage 3 and facial pain scale (FPS)0**.

Postoperative pain was managed by **acetaminophen 15mg/kg orally every 8 hours**.

Rescue dose was set by **Tramadol drops 1mg/kg** (lock-out 3 times per day) and recording **FPS at rest and in motion every 6 hours** until discharge.

Results and discussion

Spinal anesthesia was **successfully performed in all cases**.

Only **1 child** experienced a post-dural puncture headache lasting 4 days. It was treated with rehydration.

After surgery, the average **FPS was 2 after 6 hours and 2.5 after 12 hours**, while at **discharge the average FPS was 1.1**.

12 patients required pain treatment per os.

All patients were **discharged on the third postoperative day**.

Conclusion

Central Blocks allow blockade of sympathetic pathways resulting in profound suppression of stress responses to surgery. PNBs was found to be **a safe technique, maintaining effective analgesia following discharge**.

The **reduction of surgical stress** and control of analgesia using advanced techniques **influenced the outcome in terms of length of stay**.

We found also **lack of significant perioperative complications**.