

Pediatric RA

102. Clonidine effect on pediatric post-tonsillectomy pain: systemic versus local administration

Soudon O, Brui B, Veyckemans F.,
Pendeville Ph., Lavand'homme P
lavandhomme@anes.ucl.ac.be
Anesthesiology Dept, St Luc Hospital, Université
Catholique de Louvain, Av Hippocrate 10-1821, 1200
Brussels, Belgium

Background: Children experience significant pain after tonsillectomy. Clonidine (CLO), an alpha2-adrenergic agonist, exhibits analgesic and anti-inflammatory effects in the perioperative period (1). While early benefit of systemic CLO remains controversial after pediatric tonsillectomy (2), local administration seems to enhance pain relief after ropivacaine infiltration of the tonsillar fossae (3). The present study evaluates the late benefit of CLO administration during pediatric tonsillectomy and questions a local analgesic effect.

Materials and Methods: After ethical committee approval and parental informed consent, children (ASA 1-2; age between 2 and 12 yr; n=15 per group) scheduled for tonsillectomy were randomly assigned to receive: either intravenous (IV) and local (i.e. infiltration of the tonsillar bed by the surgeon after tonsil removal) saline (Saline group), or IV CLO 2 µg/kg and local saline (IV CLO), or local CLO 2 µg/kg total dose and IV saline (LO CLO). General anesthesia protocol was similar with sevoflurane inhalation, sufentanil 0.25 µg/kg before intubation and IV paracetamol 15 mg/kg. Early postoperative pain (day0, from 30 min until 3h) using CHEOPS score as well as analgesics need (diclofenac, tramadol) was evaluated by one day clinic nurse. Sleep quality and pain scores after discharge were assessed by the parents at day(D)1, D2, D5 and D7 using Objective Pain Scale (5 pts: 1=no pain, 5=strong pain unrelieved by treatment) and analgesics needs were left at their discretion (oral paracetamol, diclofenac or tramadol). Statistical analysis used ANOVA with posthoc test and X² corrected for multiple groups, P< 0.05 was considered significant.

Results: Groups did not differ for age (average 4±1.5 yr), weight (17±7 kg), intraoperative parameters, early postoperative pain scores and analgesics use at D0. Long-term parameters D1 until D7 are in Table: pain scores and cumulative (T) doses of analgesics (mean±SD). Sleep quality was higher at D1 after local CLO (73% reporting a "good night") vs Controls (38%) vs IV CLO (54%), but did not differ at D2.

	Saline	IV CLO	Local CLO
Pain score at D1	3.2 ± 1.2	3 ± 1.0	2.8 ± 0.8
Pain score at D2	3.1 ± 1.1	2.7 ± 0.9	2.6 ± 0.9
Pain score at D5	3.2 ± 1.2	2.1 ± 1.0*	2.4 ± 1.2
Pain score at D7	2.1 ± 1.3	1.7 ± 1.0	1.9 ± 0.9
T paracetamol doses	8.3 ± 3.8	8.7 ± 4.3	4.8 ± 1.7*¶
T diclofenac doses	9.6 ± 3.7	7.1 ± 3.3	5.7 ± 3.5*
T tramadol doses	2 ± 1.7	0 ± 0	1 ± 0

P<0.05 with Saline group (*), with IV CLO group (¶)

Discussion: These preliminary data show that, during pediatric tonsillectomy, local but not systemic administration of clonidine reduces postoperative analgesics consumption. These results added to others (3) reporting lower pain scores at D3 and D5 after local ropivacaine-clonidine infiltration plaid for a local CLO effect and deserve additional studies.

References:

- (1) Nader et al, *Anesth Analg* 2001; 93: 363-9 (2) Bergendahl et al, *Acta Anaesthesiol Scand* 2004; 48: 1292-1300 (3) Giannoni et al, *Arch Otolaryngol Head Neck Surg* 2001; 127: 1265-70.

141. Comparison of ropivacaine 0,5% versus levobupivacaine 0,5% for ilioinguinal and iliohypogastric nerve block in children

Chatzieleftheriou A, Gatos Ch, Anagnostidou A,
Zacharopoulos D, Noutsos I, Mammi P.
uclas00@otenet.gr
Agia Sofia Children's Hospital of Athens, Thivon and
Mikras Asias, Goudi, Athens, Greece Vaiou Kritis 53
Aharai, Greece

Introduction: The aim of our study is to compare the efficacy of ilioinguinal and iliohypogastric block with the use of either ropivacaine 0,5% or levobupivacaine 0,5% in children.

Methods: 40 children, aged 2-12 years, ASA I-II who were scheduled for inguinal herniorrhaphy received an iliohypogastric-ilioinguinal block. Patients were randomly allocated in two groups. Group A (n=20) received the block with 1,2 mg/kg of levobupivacaine 0,5% whereas group B (n=20) received 1,2 mg/kg of ropivacaine 0,5%, both 10 min before the onset of the operation. Anesthesia was induced with sevoflurane 8%-6%-2% in N₂O/O₂(2:1) via laryngeal mask with spontaneous ventilation. No other drugs, including opioids, other analgesics or local anaesthetics other than the study drug were given during surgery. Heart rate, blood pressure, breath frequency, SpO₂, and EtCO₂ were measured every 5 min for the estimation of the analgesic effect. Postoperatively the measurement was continued for 20 min by recording the vital signs mentioned above. The clinical evaluation of the pain after 30 min and for 6 hours was made with the use of OPS. If rescue analgesic was needed, paracetamol 20 mg/kg was administered. Any side effects were recorded.

Results: The success rates of both groups were similar, providing both satisfactory intraoperative and excellent postoperative pain relief. The patients needed rescue analgesics represent 5% in both groups. The incidence of femoral nerve block was 2 patients in every group. Parental satisfaction with postoperative pain was high in both groups.

Conclusion: Ropivacaine 0,5% and levobupivacaine 0,5% are equally effective for iliohypogastric-ilioinguinal nerve block in children undergoing herniorrhaphy. They are safe and provide excellent postoperative pain relief.