Anésthésie pédiatrique: Douleurs

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Lateral Transversus Abdominis Plane Block Versus Quadratus Lumborum Block in sub-umbilical pediatric surgery

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Position du problème et objectif(s) de l'étude:
Transverse Abdominis Plane (TAP) block has been extensively used in pain management. Recently, Quadratus Lumborum block (QLB) has been reported as a superior alternative in adults given a further dermatomal spread and a more prolonged analgesic outcome. We aimed to compare the efficiency of QLB to TAP block in children undergoing sub-umbilical peripheral surgery.

Matériel et méthodes:
Randomized clinical trial including patients aged from 2 to 10, scheduled for an elective sub-umbilical peripheral surgery.
Anesthesia protocol was standardized: inhalational induction (if applicable), IV access, fentanyl 4 mcg/kg and propofol 2-4 mg/kg, supraglottic device for airway management. Patients were afterwards randomlyallocated to undergo either a TAP block (TAP group) or a QLB (QLB group). All blocks were ultrasound guided using 0.2 ml/kg of 0.25% bupivacaine.
Post operative pain was assessed using either FLACC score at the surgical ward or the PPPM at home on H0,H1,H2,H6,H12 and H24post-operative hours. If FLACC or PPPM<3, the child received paracetamol; ibuprofen was administered for persistent pain.
Our primary outcome was time to first rescue analgesia. Secondary outcomes were post-operative pain scores and analgesic consumption.
Chi-square and Student-t tests were used in statistical analysis, $p<0.05$ was considered as statistically significant.

Résultats & Discussion:
Ninety seven patients met the inclusion criteria (TAP group =48, QLB group =49). seven patients were excluded because of the failure of the block (TAP=3, QLB=4, p=1). ninety observations were analyzed (TAP=45, QLB=45). Demographic features, type and duration of surgery were comparable between groups.
Pain scores were significantly higher in TAP group patients at H0, H1, H2, H6, H12 and H24 ($p<0,05$).

Conclusion:
QLB may provide prolonged and better-quality analgesia compared to TAP block in children undergoing sub-umbilical peripheral surgery.

	TAP group (N=45)	QLB group (N=45)	p
Number of rescue analgesia free patients during the first 24 hours	18	32	0.003
Time to first rescue analgesia (min)	364 ± 198 (n=27)	493 ± 168 (n=13)	0.049
Mean analgesia bolus number	0,87 ± 0,84	0,36 ± 0,61	0.001

TAP = Transverse Abdominis Plane. QL= Quadratus Lumborum. N: number

Table 1: Comparison of postoperative analgesia between groups

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