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### Postoperative analgesia with local anesthetic (intra-articular ± wound infiltration) in reconstruction of knee anterior cruciate ligament

Espinosa W, Rovira M, <sup>2</sup> Salazar, CH

*Mutua de Futbolistas Españoles (Sec. Barcelona) C Fiact, Barcelona, Barcelona;* <sup>2</sup> *Nutua de Futbolistas Españoles (Sec. Barcelona) C Fiact, Barcelona; Centre Hospitalari Unitat Cardiologica de Manresa, Barcelona Spain*

**Introduction:** Reconstruction of anterior cruciate ligament of the knee by arthroscopy technique (patellar bone-tendon-bone halograft) produces intense immediate postoperative pain. This study evaluates the effect of intra-articular local anesthetic (LA) with and without infiltration of tendon donor zone on postoperative pain.

**Method:** Method: Following local ethics committee approval and informed consent, 90 male patients ASA I-II, 77 kg average weight, 176 cm average height, scheduled for arthroscopy reconstruction of anterior cruciate ligament of the knee with patellar bone-tendon-bone halograft, were submitted to spinal anesthesia (midline puncture at L2-3 or L3-4 with a 27 gauge pencil point intradural needle) with 10 mg of hiperbaric bupivacaine without adrenaline; anesthesia levels of T8-9/T9-10 were obtained. At the end of surgical procedure patients were distributed randomly in three randomized groups: group I had 20 ml of intra-articular saline solution and 10 ml saline solution infiltration in tendon donor zone; group II had 20 ml of intra-articular 0.75% ropivacaine with 10 mg of methadone and 10 ml saline solution infiltration in tendon donor zone; group III had 20 ml of intra-articular 0.75% ropivacaine with 10 mg of methadone and 10 ml 0.75% ropivacaine infiltration in tendon donor zone. Prophylactic preoperative treatment consisted of 1 gr IV cefazolin and 4 mg IV ondansetron. Postoperative analgesic treatment consisted of 75 mg IM diclofenac BID and 2 gr IV propacetamol TID, 100 mg IM tramadol was used as rescue analgesic if needed. First postoperative 24h assessments consisted of anesthetic effect duration (minutes), pain scores at rest and in movement (VAS, VASm) and events in postoperative. Statistical analysis was Log-Rank test for time and pain score measurements and percentile description for postoperative events.

**Results:** There were no statistical significant differences between groups in demography, latency time for anesthetic effect, duration of surgery (45-78 minutes) or postoperative events (that consisted of 6% easily controlled nausea/vomits).

Table of results

	Age	Height	Weight	Lat	D Blq*	Bg Pain*	VAS*	VASm*	R Anlg*	N/V
G I	22	175	72	12'	230±64	300±69	5±1,8	6,4±1,8	2,4±0,5	6%
GII	24	179	73	13'	240±63	360±299	3±1,6	4±2,1	0,1±0,3	7%
GIII	23	176	76	13'	260±85	582±218	3±2	5,1±2	0,1±0,5	5%

(number of dosages); N/V: nausea/ vomits

\* Statistical significance: Log-Rank test p0,0084 (GIvsGIII), p0,091 (GIvsGII)

**Conclusions:** Intra-articular 20 ml of 0,75% ropivacaine with 10 mg of methadone provides adequate analgesic postoperative pain control with a standard scheduled parenteral diclofenac and propacetamol background. It is even improved with additional infiltration with 0.75% ropivacaine of the tendon donor zone. Tramadol rescue analgesia was almost unnecessary. Postoperative events were few and easily controllable (nausea/vomits).

**References:** Moiniche-Mikkelsen *Reg Anesth Pain Med* 1999; 24: 430-7. Espinosa-Salazar *The International Monitor on Regional Anaesthesia and Pain Therapy* 1999 (11) 3: 153

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