**COMPARISON OF SUPRAINGUINAL FASCIA ILIACA AND PENG BLOCKS ON POSTOPERATIVE PAIN AND FUNCTIONAL RECOVERY AFTER TOTAL HIP ARTHROPLASTY: PRELIMINARY RESULTS OF A NON-INFERIORITY TRIAL**

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**Conflicts of interest disclosure**

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**ABSTRACT**

**Background and aims**: Pain after posterolateral-approached total hip arthroplasty (PLTHA) may affect early functional recovery.Supra-inguinal fascia iliaca (SFICB) and pericapsular nerve group blocks (PENG) have been proposed as promising analgesia techniques.1-3This trial was conducted to assess non-inferiority of PENG as compared to SFICB for controlling postoperative pain.Secondary outcomes included several assessments functional recovery.

**Methods**: After approval by the local ethics committee, forty-three patients scheduled for PLTHA with spinal anesthesia were prospectively and randomly allocated to groups. Group S and Group P received SFICB (40 mL ropivacaine 0.375%) or PENG (20 mL ropivacaine 0.75%), respectively. A blinded observer evaluated rest and mobilization pain on a 0-10 numeric rating scale (NRS) at fixed time points: 1h and 6h after surgery, at day-1 and day-2 at 8am, 1pm and 6pm. At day-1 and day-2, evolution on quality-of-recovery-15 score (QoR-15), timed-up-and-go (TUG), 2-minutes (2MWT) and 6-minutes-walking (6MWT) tests were performed. Non-inferiority margin was set as 1 NRS point 6 hours after surgery. Data were analyzed using Mann-Whitney or generalized linear mixed model tests as appropriate.

**Results**: 6-hours after PLTHA, group P NRS was non-inferior to group S NRS (Figure 1). Groups had no significant differences regarding rest and dynamic pain trajectory during the first 48 postoperative hours (Figure 2), as well as regarding motor and functional recovery at day-1 and day-2 as assessed by TUG, 2MWT, 6MWT and QoR-15 (Figure 3).

**Conclusions:** In PLTHA, PENG is non-inferior to SFICB regarding postoperative pain control and no differences are observed regarding postoperative functional recovery. These results should be confirmed once the planned sample size (105) will have been recruited.

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