

### PD-11. CAN WE PRODUCE A UNILATERAL EPIDURAL BLOCK? A PROSPECTIVE, RANDOMIZED EVALUATION OF THE EFFECTS OF ROTATING THE EPIDURAL NEEDLE BEFORE THREADING THE CATHETER

Borghini, B.<sup>1</sup>; Agnoletti, V.<sup>1</sup>; Ricci, A.<sup>1</sup>; Van Oven, H.<sup>1</sup>; Montone, N.<sup>1</sup>; Casati, A.<sup>2</sup>

1. Dept of Anesthesiology, IRCCS Istituti Ortopedici Rizzoli, Bologna, Italy; 2. Dept of Anesthesiology, IRCCS H San Raffaele, Milano, Italy

**Background:** The aim of this prospective, randomized, double-blind study was to evaluate the effects of turning the Tuohy needle 45° to the operated side before threading the catheter through the needle on the distribution of epidural block in patients undergoing total hip arthroplasty

**Methods:** With Ethical Committee Approval, and written informed consent, the epidural space was located with an 18 Gauge Tuohy needle at the L4-L5 interspace in 32 patients receiving lower limb surgery. Patients were then randomly allocated to the placement of an epidural catheter with either the tip of the Tuohy needle oriented at 90° cephalad (group Control, n = 16) or the tip of the Tuohy needle rotated 45° toward the operated side (group 45°-Rotation, n = 16). Epidural anesthesia was induced with 10 mL of 0.75% ropivacaine and 10 µg sufentanil, while a blinded observer recorded the evolution of sensory and motor blocks on both sides, as well as quality of postoperative pain relief and consumption of local anesthetic solution during the first 2 days of patient-controlled epidural analgesia.

**Results:** Readiness to surgery (complete loss of pinprick sensation up to T10 with a modified Bromage scale  $\geq$  2 on the surgical side) required 20  $\pm$  8 min in the group Control and 18  $\pm$  7 min in the group 45°-Rotation (P = NS). No differences in sensory level between the operated and non-operated sides were observed in the group Control, but patients of group 45°-Rotation showed a sensory level on the non-operated side lower than that observed on the operated side (P = 0.0005). The degree of motor block on the non-operated side was deeper in patients of group Control than in those of group 45°-Rotation. The time for two-segment regression of sensory level on the surgical side was 175  $\pm$  43 min in group 45°-Rotation and 168  $\pm$  45 min in group Control (P = NS). On the contrary, the time for two segment regression on the non-operated side was shorter in the group 45°-Rotation (83  $\pm$  74 min) than in group Control (164  $\pm$  44 min) (P = 0.01). Both techniques provided similar postoperative analgesia, and total consumption of the local anesthetic mixture during the first 48 h after surgery was 335  $\pm$  76 ml in group Control and 314  $\pm$  79 ml in group 45°-Rotation (P = NS).

**Conclusion:** The rotation of the Tuohy introducer needle 45° toward the operated side before threading the epidural catheter allows to induce a preferential sensory and motor anesthetic blocks toward the operated side with a similar postoperative analgesia effectiveness compared with the standard insertion technique.