

HEMODYNAMIC EFFECTS OF PERIPHERAL NERVE BLOCK IN HIGH RISK PATIENTS UNDERGOING TOTAL HIP ARTHROPLASTY

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Argomento: Anestesia loco-regionale e analgesia

BACKGROUND. Intraoperative hypotension is a frequent occurrence during anaesthesia for hip fracture surgery in older patients with comorbidities. Our purpose is to assess the intraoperative hemodynamic changes of combined lumbar plexus block (LPB), sciatic nerve block (SNB), and lateral femoral cutaneous nerve block (LFCNB) in the high risk patients undergoing total hip arthroplasty (THA) due to hip fracture.

METHODS: This prospective observational study included 12 patients, ASA physical status III-IV, undergoing THA. After premedication with midazolam, LPB, SNB and LFCNB were performed with a mixture of 25 ml mepivacaine 1% and 20 ml levobupivacaine 0.5%. Invasive arterial pressure, heart rate, infused fluid volume and the total amount of ephedrine administered were recorded immediately after sedation, at the end of the induction of anesthesia, at the incision (T0) and every 3-minutes until end of surgery. Postoperative complications were assessed until hospital discharge.

RESULTS. All patients had successful block. The mean age was 80.2 ± 2.6 . Six patients had ASA IV status. From incision to forty-two minutes after the start of surgery, there was a 4.7% decrease in systolic arterial pressure, a 0.4% decrease in diastolic arterial pressure, and a 2.8% increase in heart rate. Two patients required ephedrine boluses, while fluid administration was 556.0 ± 38.1 ml. The duration of surgery was 51.8 ± 6.2 minutes. In the postoperative period, there was one pulmonary embolism due to deep vein thrombosis. Recurrence of atrial fibrillation was observed in a patient with a history of paroxysmal atrial fibrillation.

CONCLUSION. We thought that combined LPB, SNB and LFCNB provides stable intraoperative hemodynamic parameters with adequate anesthesia for THA in high risk patients. Intraoperative hemodynamic stability may decrease perioperative and postoperative risk of complications.

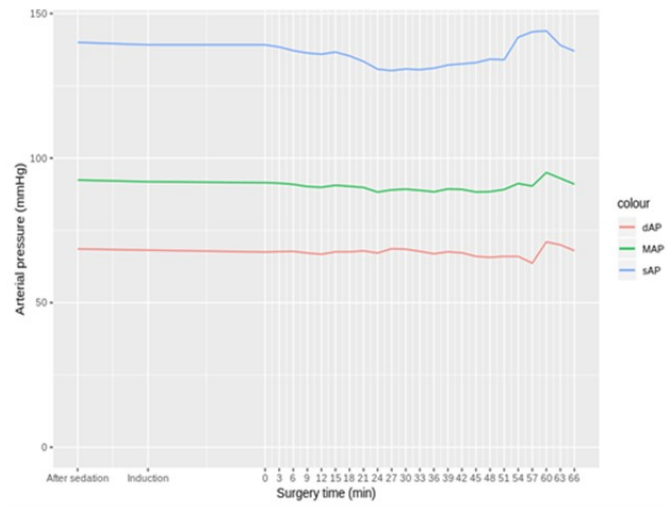


Figure 1. The graph shows the average of systolic, diastolic and mean arterial blood pressure trends of all patients during the entire study period. The surgical incision corresponds to 0 minute. After sedation: it is the moment immediately after premedication with midazolam; Induction: it is the moment immediately after the end of local anesthetic injection. sAP: systolic arterial pressure; dAP: diastolic arterial pressure; MAP: mean arterial pressure.