

Acute Postoperative Pain in Patients Undergoing Orthopaedic and Trauma Surgery

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Introduction. Perioperative pain management should be an organic part of all patient management undergoing orthopaedic surgical procedures. Medical staff, including surgeons, anaesthesiologists, nurses and physiotherapists should be involved in postoperative pain management strategies. Patient pain relief after surgical procedures, and satisfaction data should be used as a point of reference regarding success of surgical procedure. Multimodal pain protocols are now considered “state of the art” for all surgical procedures, with a major goal being reduction in the amount of opioid medications required for postoperative orthopaedic patients towards using regional anesthesia techniques and infiltrational techniques as much as possible.

Aim, Materials and Methods. The aim of the study was to determine if postoperative pain was satisfactory controlled in patients undergoing orthopaedic and trauma surgery in the Hospital of Traumatology and Orthopaedics.

Observational audit was performed as part of full research, in years 2015–2017 including 221 patients with seven major localisations of orthopaedic procedures (hip replacement, knee replacement, shoulder surgery, forearm surgery, lower leg surgery, major spine procedures and revision arthroplasties). The audit was performed by the fifth year anaesthesiology speciality residents using Visual Analogue Scale (VAS) for pain intensity appreciation. All patients of the study received multimodal analgesics, and postoperatively, during four occasions per day for three consecutive days, patients were asked to report their pain level.

The Ethical Committee of the Hospital of Traumatology and Orthopaedics in Riga, Latvia approved the conduction of the research process.

The data collected incorporated Visual Analogue Scale (VAS) scores depicting intensity of pain. It documented the maximal pain on the day of surgery and first postoperative day as well as the mean pain on the day of surgery (D0), mean pain on first (D1) and second (D2) postoperative days. Pain score from 0 to 3 was reported as mild, from 4 to 6 – moderate and from 7 to 10 – severe. The data collected was inserted into Microsoft Excel 2011 and further exported to Statistical Package for the Social Sciences (SPSS) software for analysis.

Results. Documented mean pain intensities presented according to surgical procedures were as follows: for hip replacement – 3.6 ± 1.5 (D0), 3.7 ± 1.6 (D1) and 2.2 ± 1.3 (D2); for knee replacement – 4.7 ± 1.7 (D0), 3.6 ± 1.5 (D1), 2.8 ± 1.4 (D2); for lower leg surgeries – 3.9 ± 2.2 (D0), 2.8 ± 1.6 (D1), 2.5 ± 1.4 (D2); for shoulder procedures – 3.8 ± 2.2 (D0), 3.4 ± 1.5 (D1), 2.5 ± 1.2 (D2); for forearm procedures – 3.5 ± 2.0 (D0), 3.0 ± 1.8 (D1), 1.6 ± 1.0 (D3); for spine surgeries – 4.0 ± 2.4 (D0), 3.9 ± 2.4 (D1), 3.5 ± 2.2 (D3); and for revisions – 3.5 ± 2.4 (D0), 2.8 ± 1.8 (D1), 2.2 ± 1.3 (D2).

The average maximal pain on the day of surgery (VAS max I) was recorded as following: for hip replacements – 4.7 ± 1.7 ; for knee replacements – 6.3 ± 2.2 ; for lower extremity surgeries – 5.5 ± 2.5 ; for forearm procedures – 5.4 ± 2.7 ; for shoulder surgeries – 5.7 ± 2.6 ; for spine surgeries – 5.2 ± 2.7 ; and for revisions 4.8 ± 3.2 .

Conclusions. The results indicated that despite multimodal analgesic implementation, intense postoperative pain remains a problem for a larger proportion of patients on the day of surgery. Further collaboration between specialities and acute pain service are required.