



## Factors associated with severe postoperative pain in patients with total hip arthroplasty

Nadezda M. PETROVIC<sup>1</sup>, Dragan R. MILOVANOVIC<sup>2</sup>, Dragana IGNJATOVIC RISTIC<sup>3</sup>,  
Nikola RIZNIC<sup>2</sup>, Branko RISTIC<sup>4</sup>, Zeljko STEPANOVIC<sup>4</sup>

<sup>1</sup>Department of Anesthesiology, General Hospital, Jagodina, Serbia;

<sup>2</sup>Department of Pharmacology and Toxicology, Faculty of Medical Sciences, University of Kragujevac, Kragujevac, Serbia;

<sup>3</sup>Department of Psychiatry, Clinical Centre "Kragujevac", Faculty of Medical Sciences, University of Kragujevac, Kragujevac, Serbia;

<sup>4</sup>Department of Orthopedics and Traumatology, Clinical Centre "Kragujevac", Faculty of Medical Sciences, University of Kragujevac, Kragujevac, Serbia

**Objective:** The aim of this study was to determine the risk factors for the development of postoperative pain following total hip arthroplasty, particularly those connected with psychological distress and personality traits.

**Methods:** The study included 90 patients with complaints of postoperative pain following cemented total hip replacement divided into two groups based on the intensity of postoperative pain as measured using the numerical rating scale (NRS). Patients with NRS scores of 5 or higher were included in the study group and those with NRS of less than 5 were included in the control group. The Hamilton scales for anxiety and depression and the DS14 test for the identification of Type D personality were used for psychological evaluation.

**Results:** In the study group, more patients were female (29 vs. 13) and had more anxiety (13 vs. 3), depression symptoms (11 vs. 2), and Type D personality (18 vs. 9) than the control group. Mean preoperative NRS was  $7.2 \pm 1.7$  in the study and  $6.0 \pm 1.2$  in the control group ( $p < 0.001$ ). Factors associated with development of strong postoperative pain was female gender (OR=4.91, 95% CI=2.01 to 12.01,  $p < 0.001$ ), Type D personality (OR=2.81, CI=1.17 to 7.32,  $p = 0.030$ ), severe anxiety (OR=6.01, CI=1.58 to 22.90,  $p = 0.009$ ), depressive symptoms (OR=7.33, CI=1.52 to 35.34,  $p = 0.013$ ) and subjects with marked preoperative painful condition (OR=2.64, CI=1.17 to 5.44,  $p < 0.001$ ).

**Conclusion:** Patients with severe anxiety, depression and Type D personality appear to be at risk of developing severe postoperative pain. In addition, female gender and the intensity of pain immediately after procedure were found to be important risk factors.

**Key words:** Anxiety; depression; female; postoperative pain; risk factors; total hip arthroplasty; Type D personality.

Modern anesthesiology has greatly advanced the prevention and treatment of pain after surgery. However, postoperative pain remains the most common concern for surgical patients. Almost a quarter of experience adverse

reactions to analgesics and significant pain continues throughout the postoperative period in many subjects.<sup>[1]</sup> Therefore, greater knowledge of risk factors for both the development and maintenance of postoperative pain

**Correspondence:** Prof. Dragan R. Milovanovic, MD., PhD. Department of Pharmacology and Toxicology, Faculty of Medical Sciences, University of Kragujevac, Svetozara Markovica 69, 34000 Kragujevac, Serbia.

Tel: (+381) 505 254 e-mail: piki@medf.kg.ac.rs

**Submitted:** May 17, 2014 **Accepted:** July 09, 2014

©2014 Turkish Association of Orthopaedics and Traumatology

Available online at  
www.aott.org.tr

doi: 10.3944/AOTT.2014.14.0177

QR (Quick Response) Code















