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The effect of anesthesia method on serum level of pro-brain (B-type) natriuretic peptide (pro-BNP) in patients undergoing orthopedic surgery

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Surgical stress response is among the most severe burden of stress tolerated by the patients' long life for which anesthesia is used to suppress. We assessed the effect of 3 anesthesia methods on postoperative levels of pro-BNP to see which one is more effective to prevent surgical stress response. In a randomized clinical trial, after matching inclusion and exclusion criteria, 120 patients 18-65 years were selected and randomly assigned into 3 groups (40 in each); the 3 groups were Group A (general anesthesia plus epidural catheter); Group B (general anesthesia and intravenous patient controlled analgesia) and Group C (spinal anesthesia plus intravenous patient controlled analgesia). There was no difference between 3 groups for basic variables and baseline pro-BNP levels. However, postoperative pro-BNP levels were as follows: Group A = 63.8 ± 10.1 pg/mL; Group B = 83.2 ± 12.3 pg/mL; Group C = 51.5 ± 8.5 pg/mL (P value for ANOVA = 0.01). The results of the current study suggested that spinal plus intravenous patient controlled analgesia have the most favorable cardiac effects regarding post-operative levels of pro-BNP.

Biography

Alireza Mirkheshti graduated from Tehran Medical University as general practitioner at the age of 26 and studied Anesthesiology at Shahid Beheshti University of Medical Sciences (SBMU), Tehran, Iran. He graduated as an Anesthesiologist at the age of 31 and began to work at SBMU as an Assistant Professor of Anesthesiology. He has published more than 18 papers in reputed journals and presented more than 6 lectures in international congresses. He is serving as a faculty member at Shahid Beheshti University of Medical Sciences, Iran.