

Peripheral Perfusion during Total Intravenous or Combined General Anesthesia.

Fijałkowska A., Nestorowicz A., Kowalczyk M. *Eur J Anaesthesiol.*, May 2011. Abs 875.

Background

Peripheral perfusion may be compromised during anesthesia. It was shown that peripheral perfusion index (PI) correlates well with end-tidal concentration of a volatile anesthetic used [1, 2]. The aim of study was to assess the changes in PI values during propofol- or sevoflurane-maintained anesthesia.

Methods

ASA I-II class women, scheduled for elective laparoscopic surgery were randomly assigned to two groups: A-combined or B-intravenous anesthesia. In group A, anesthesia was induced with thiopentone and suxamethonium and maintained with N₂O/O₂, sevoflurane, fentanyl and cis-atracurium. In group B, propofol and remifentanyl were applied for induction and maintenance of anesthesia using the TCI method, together with air/oxygen mixture and suxamethonium followed by cis-atracurium. During anesthesia PI values were recorded (Radical-7, Masimo) at the following points: 1-before anesthesia, 2-after opioid administration during induction, 3-after intubation, 4-skin incision, and then (5-9) at 10-min intervals during maintenance, 10-at the end of surgery, 11-eyes opening, 12-extubation, 13-before discharge from the theatre. The Mann-Whitney U test was used for statistical analysis.

Results

Group A consisted of 45 and group B - 43 patients. There were no significant differences between the two groups according to demographic data, time of surgery and anesthesia. In both groups anesthesia resulted in an increase in PI, with significantly higher values recorded in group B compared to group A. Completion of anesthesia caused a decrease in PI to the preoperative values.

Conclusions

Peripheral perfusion improves during general anesthesia. TCI with propofol results in better tissue blood flow compared to combined anesthesia with sevoflurane.

References:

- 1) Hager H, Reddy D, Kurz A: *Anesthesiology* 2003; 99: A593; 2) Fijałkowska A, Kowalczyk M: *Anaesthesiol Intensive Ther* 2010; 42:11-18.

