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Controlled hypotension and minimal inflation pressure: A new approach for pneumatic tourniquet application in upper limb surgery

Minimal inflation pressures are recommended for limb surgery to eliminate complications attributable to high inflation pressures with the pneumatic tourniquets. We applied controlled hypotension and a minimal inflation pressure (CHAMIP) technique to provide a bloodless surgical field. Thirty-six patients scheduled for upper extremity surgery were randomized equally to receive either normotensive anesthesia and conventional inflation pressures or controlled hypotension (systolic arterial blood pressure of 80-100 mm Hg and mean arterial blood pressure >60 mm Hg) and minimum inflation pressures. Anesthesia was induced with propofol IV bolus and remifentanil IV continuous infusion and maintained with propofol and remifentanil IV continuous infusion. To determine the minimal inflation pressure, the digital plethysmograph was applied to the second finger at the side of the operation and the tourniquet was inflated slowly until the arterial pulsations disappeared on the oscilloscope. Pneumatic tourniquets are associated with adverse effects resulting from high inflation pressures. Therefore, minimal inflation pressures are recommended in extremity surgery. To reach real minimal inflation pressure the patient's blood pressure must be reduced. We used controlled hypotension with remifentanil and propofol to reach minimal inflation pressures.

Biography

Ayse Karci has completed her medical education at Ege University, Turkey and was specialized in anesthesiology in Dokuz Eylul University School of Medicine and still working in the same hospital as an Associate Professor. She has worked in the Department of Obstetrics and Labor Unit as anesthesiologist and was also the Director of School of Anesthesia Technicians for about six years. She has 16 publications in reputed journals and 29 Turkish papers in the field of anesthesia.

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