Evaluation of radial and ulnar blood flow after radial artery cannulation with 20 and 22 gauge cannulae | 1

Summary:

This study evaluated ulnar and radial artery blood flow after radial artery cannulation during general anaesthesia using Doppler ultrasound. A total of 80 patients were randomly assigned to receive radial artery cannulation with either a 20-G or 22-G cannula. Arterial diameter, peak systolic velocity, end-diastolic velocity, resistance index and mean volume flow were measured at four time points in both arteries: before anaesthesia; 5 min after intubation; immediately after cannulation; and 5 min after cannulation. After radial artery cannulation, ulnar diameters and blood flow were significantly increased, and persisted until 5 min after cannulation. Radial blood flow was decreased immediately after cannulation and recovered to pre-cannulation values 5 min after cannulation. There were no statistical differences between groups at each time point. Radial artery cannulation causes compensatory increase in ulnar artery blood flow, and the difference in cannula size has minimal effect on this change.

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