

AB032. SOH22ABS002. A systematic review and meta-analysis of neuraxial versus general anaesthesia for infra-inguinal revascularization of critical limb ischaemia

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Background: Lower limb revascularisation is associated with high rates of perioperative morbidity and mortality. Procedures can be conducted under neuraxial anaesthesia (NA) or general anaesthesia (GA). We conducted a meta-analysis to investigate if one anaesthetic modality was associated with superior outcomes for adults undergoing lower limb revascularisation for critical limb ischemia.

Methods: Electronic databases were searched for randomised and non-randomised studies comparing NA and GA for elective or emergency infra-inguinal endovascular and/or open revascularisation in critical limb ischaemia. The primary outcomes were 30-day mortality, early graft thrombosis, and limb amputation at one-year, secondary outcomes included major adverse cardiovascular events (MACE), stroke, pulmonary and renal events, and tertiary outcomes included rate of post-operative wound infection and total operative time in minutes. Statistical analysis comprised of odds ratios and standardised mean differences using random-effects models.

Results: Eleven studies, involving 15,145 patients, met the inclusion criteria. Meta-analysis of parameters showed statistically significant differences in rates of 30-day mortality [odds ratio (OR): 1.33; 95% confidence interval (CI): 1.16–1.53, $P < 0.0001$], MACE (OR: 0.79; 95% CI: 0.65–0.96, $P = 0.02$), venous thromboembolic events (OR: 0.43; 95% CI: 0.26–0.71, $P = 0.0008$), acute renal failure (OR: 0.62; 95% CI: 0.40–0.96, $P = 0.03$), and wound infection

(OR: 0.79; 95% CI: 0.63–0.98, $P = 0.04$). However, after exclusion of a large observational study that demonstrated a skew in data points, no significant differences were ascertained in the sensitivity analysis of the parameters except wound infection. There were no significant differences seen in early graft thrombosis (OR: 1.01, 95% CI: 0.81–1.26, $P = 0.94$) or limb amputation at one-year (OR: 0.80; 95% CI: 0.59–1.07, $P = 0.13$).

Conclusions: Considering the variety of study-types included in this systematic review, a multi-centre randomized control trial is warranted to further explore the difference between these two anaesthetic approaches, if present.

Keywords: Neuraxial anaesthesia (NA); general anaesthesia (GA); lower limb revascularisation; bypass; angioplasty

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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