INVITED COMMENTARY

Supervised Trainee Led Open Vascular Surgery Procedures Should Be "Part" of Modern Training Curricula!

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The systematic literature review by Bath et al.[1] addresses the concern about patient safety that every vascular surgeon faces when supervising trainees. What is the impact of supervised trainee led vs. expert surgeon led procedures on post-operative outcomes? The authors conclude that in selected cases, with appropriate training and suitable experience, supervised trainees can perform vascular surgical procedures without any detriment to patient care.

But do the data presented justify this conclusion, and are there any alternatives in 2019 to ensure that vascular surgery trainees are proficient despite the reduction in training time, reduced number of open cases, increase in case complexity, and focus on patient safety?

The conclusion that patient outcomes are identical in trainee and expert led vascular operations is a truism. What kind of supervisor would allow inferior outcomes without intervening? The outcomes in this review may be a hallmark of supervisor skills instead of the skills of the trainee.

In this meta-analysis, 16 articles were included, identifying three open vascular surgery operations for comparison: major lower limb amputation, arteriovenous fistula formation, and carotid endarterectomy. According to recent general needs assessments[2,3] these open procedures do not reflect the actual training needs but reflect the available literature comparing patient outcomes between supervised trainee led and expert surgeon led procedures.

The definition of a supervised expert was clearly stated, in contrast to the trainee description with information about grade, specialty, and competence lacking in several studies. The trainee led cases selected by the surgical team were most likely influenced by patient factors (complexity, symptoms, co-morbidities, etc.) and trainee factors (competency, grade, discipline, etc.), introducing a significant selection bias. Information on how trainees were supervised is lacking, although it is well known that standardised supervision is more effective than random apprenticeship training.[4] Further research into the impact of trainee led vascular surgery procedures on patient outcomes is clearly needed.

Consequently, it is crucial that ongoing, careful, direct trainee supervision in the vascular surgery operating room remains in place to obtain outcomes comparable to "experts".

The authors advocate that trainee led vascular surgery interventions are essential for today's surgical trainees to ensure high quality care for the patients of the future. We would not disagree with this approach but only if modern vascular surgery training is not limited to training on actual patients but is preceded by timely stepwise structured supervised simulation based training session(s) until proficiency has been achieved preferably using a credible pass–fail standard.[5] Then, vascular surgery cases should be selected based on patient and trainee factors, to allow the trainee to apply the acquired technical and non-technical skills in the operating room on the actual patient under close supervision. Subsequently, the trainee's performance should be evaluated identifying strengths and weaknesses to encourage the trainee to continue to practice and improve technical and non-technical skills in the simulated environment prior to applying these skills in real life to become not only proficient but an expert in treating vascular surgery patients.

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