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Comments on "A course on endovascular training for resuscitative endovascular balloon occlusion of the aorta: a pilot study for residents and specialists"

Morten Engberg[1,2], Mikkel Taudorf[3], Lene Russell[1,4], Lars Konge[1,2], Lars Lönn[2,3]

[1]Copenhagen Academy for Medical Education and Simulation (CAMES), Centre for Human Resources and Education, Copenhagen, Denmark
[2]Department of Clinical Medicine, Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark
[3]Department of Radiology, Copenhagen University Hospital Rigshospitalet, Copenhagen, Denmark
[4]Department of Intensive Care, Copenhagen University Hospital Rigshospitalet, Copenhagen, Denmark

The recently published article "*A course on endovascular training for resuscitative endovascular balloon occlusion of the aorta: a pilot study for residents and specialists*" in *Annals of Surgical Treatment and Research* by Chang et al. [1] describes the design of a new endovascular training for resuscitative endovascular balloon occlusion of the aorta course (ET-REBOA). To evaluate its effectiveness, 16 residents and 12 board-certified specialists were enrolled and performed 2 REBOA procedures on a simulator after completing a series of lectures. Outcomes were evaluated by participants' self-reported confidence, a new procedure checklist, and procedure duration. The authors conclude that "*…the ET-REBOA course significantly decreased the time taken to perform the REBOA procedure with high satisfaction of the participants. The course could be an effective addition to the curriculum for the development of endovascular skills for performing REBOA.*"

We commend the authors for their important efforts to advance simulation training of REBOA, which we agree is warranted [2]. However, the methods used to assess performance cause concern about the validity and, hence, the clinical applicability of the conclusions. First of all, doctors are consistently incapable of evaluating their own skills, and therefore self-assessment has little value [3]. Second, the authors use a checklist with no evidence of validity to support the use of this specific list. Validity evidence is essential for ensuring that assessment instruments measure what they intend; actual procedural skill [4,5]. Finally, the demonstrated reduction in

procedure time does not in itself equal skills improvement, as concluded by the authors. A fast procedure might be dangerous if performed incorrectly or unsafely.

What is needed to advance REBOA simulation training is an assessment tool supported by strong validity evidence, preferably using rating scales instead of a checklist design [6]. Such a tool would allow for competency-based training programs and open the door to comparative studies of the effect and cost-effectiveness of different training strategies [7,8].

We congratulate the authors for their fine contribution, and we are excited to learn about future plans to explore the effect of the course on real-life clinical outcomes of trauma patients treated with REBOA.

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ORCID iD

Morten Engberg: https://orcid.org/0000-0002-5241-7268
Mikkel Taudorf: https://orcid.org/0000-0003-4856-9856
Lene Russell: https://orcid.org/0000-0001-7352-8728
Lars Konge: https://orcid.org/0000-0002-1258-5822
Lars Lönn: https://orcid.org/0000-0003-2089-5211

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