RESEARCH TOPIC DASME7

Hemodynamic Response to the end-expiratory occlusion test to titrate fluid challenge in operating room

Curriculum DASME Clinical

Research Area
Service Area

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Abstract
Personalizing fluid administration in high-risk surgical patients is akey issue for minimizing postoperative complications. Fluids are given infusions (for mainteinance) or in bolus (to correct an hemodynamic instability) Tecnology needed for the study: beat-to-beat continuous cardiac output monitoring for recording hemodynamic variables, by using invasive arterial waveform analysis for recording flow and pressure variables.
Aim: building-up -> testing -> validation of a predicting model to assess the optimal fluid bolus volume in different cohorts of patient. The model is developed considereing baseline charactheristics and changes induced by an hemodynamic test (the end-expiratory occlusion test).
Data collection and data analysis will be performed also with data science technology.

Scientific references

1. Functional hemodynamic tests: a systematic review and a metanalysis on the reliability of the end-expiratory occlusion test and of the mini-fluid challenge in predicting fluid responsiveness
A Messina et al
Critical care 23, 1-16
2. Association between perioperative fluid administration and postoperative outcomes: a 20-year systematic review and a meta-analysis of randomized goal-directed trials in major visceral/noncardiac surgery
A Messina et al.

Critical Care 25, 1-14

3. How can assessing hemodynamics help to assess volume status?
D De Backer et al. Intensive care medicine 48 (10), 1482-1494

4. Mini fluid chAllenge aNd End-expiratory occlusion test to assess flUid responsiVEness in the opeRating room (MANEUVER study): a multicentre cohort study
Messina et al. European Journal of Anaesthesiology| EJA 38 (4), 422-431

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