Reviewer's report

Title: Usefulness and growing need for intraoperative transthoracic echocardiography: A case series

Version: 2  Date: 16 March 2015

Reviewer: Johann Knotzer

Reviewer's report:

Comments on „Usefulness and growing need for intraoperative transthoracic echocardiography: A case series“ by Kotaro Hori and colleagues.

I have read this case series by Dr. Hori and colleagues with great interest. I totally agree with the authors that echocardiography is a very useful tool for both, hemodynamic monitoring and diagnosis creation in the perioperative setting. Furthermore, I believe that time is ready that general anaesthesiologists get familiar with basics in echocardiography in their daily practice.

The question for me is not if we should use echocardiography in the perioperative and especially in the intraoperative setting in patients with hemodynamic instability unknown origin. The question is much more a discussion if we should perform TTE or TEE.

In the preoperative evaluation, in the awake patient in the ER or ICU, or in patients under regional anaesthesia I think TTE can be considered as the preferred echocardiographic device. But in the ventilated and anesthetised patient most anaesthetists will prefer TEE for several reasons as mentioned in a view sentences in your manuscript. In cardiac surgery the prevalence of esophageal lesions is 1:1000. On the other hand the impossibility to perform TTE because of special positioning or surgical site is much higher. In addition, the lack of an optimal ultrasound window especially in mechanically ventilated patients presents often a poor quality of pictures making a correct statement regarding diagnosis of the underlying disease very difficult or even wrong! Here you have obviously clear advantages using the TEE.

I think we could discuss this theme and our views longer than it is appropriate for a peer review. Nonetheless, I recommend your work for publication. I would suggest discussing in more detail the limitations of TTE and also difficulties of making correct diagnosis in ventilated or obese patients with a poor window.

Furthermore, could you give the reader your algorithm when to use echocardiography in the intraoperative setting for an advanced hemodynamic monitoring.

Thank you for your manuscript.

Yours sincerely

Hans Knotzer, MD
Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I have no conflict of interests regarding to this manuscript