

ANSWERING REVIEWERS



Dear Editor,

Please find enclosed the edited manuscript in word format (file name: 21496-Review.doc).

Title: Optimizing the value of measuring inferior vena cava diameter in shocked patients

Author: Fikri M Abu-Zidan

Name of Journal: *World Journal of Critical Care Medicine*

ESPS Manuscript NO: 21496

The manuscript has been improved according to the suggestions of reviewers:

The manuscript has now been completely re-written as advised by the reviewers. We thank the reviewers for their highly encouraging and useful comments which have helped us to improve our manuscript. All changes made in the manuscript are highlighted by yellow color to facilitate the review process. The answers to the reviewers' comments are as follows:

1. Reviewer's code: 00502932

Comment: The terms 'collapsibility index', 'caval index', and 'IVC index' are used in the article; these are presumably synonymous, but are confusing, and should either be separately defined, or a single term used. Some editing and correction of grammatical errors is needed throughout.

Answers:

1. A single term (IVC index) has been used through the whole manuscript as advised.
2. The manuscript has been edited and grammatical errors have been corrected and revised as advised.

2. Reviewer's code: 00502828

Comment: Thank you for your effort. Please revise the manuscript according to the following major comments. #1 Too many headlines are used. The manuscript can be safely divided into two or three section: "Technical consideration", "Clinical implication" and "value of measuring IVC diameter in shocked patients". #2 Fig. 1 should be illustrated in a 3-D fashion. It is difficult for readers to understand how to avoid measuring the IVC peripherally (B) or obliquely (C).

Answers:

1. The article has been divided into three sections as advised.
2. A three dimension diagram has been added as requested (Figure 2).

3. Reviewer's code: 00502903

Comments: The authors submit an educational and up-to-date commentary on the use of IVC

ultrasound for evaluation of shock. The topic is timely and important, while the manuscript addresses the relevant issues succinctly. My overall constructive criticism of this manuscript is the need for greater instructional detail. Since IVC ultrasound is not yet standard of practice in many units, our readers are likely to require more precise descriptions of IVC ultrasound technique. Specific comments as follow: 1. Technical Tips: please elaborate briefly on the advantages vs disadvantages of different ultrasound approaches to the IVC. 2. Technical Tips: please describe what is meant by vertical, oblique, and peripheral. The Figure is inadequate to provide sufficient understanding of this concept. 3. Interpretation of the Study: The "caval index" needs clarification that it is the same as the "collapsibility index" described above. 4. Pitfalls: I would suggest clarifying the effect of abdominal compartment syndrome as a "misleadingly small" IVC. 5. Figure 1: The labeling is inadequate. The shapes in 1A need to be labeled. An additional image of external landmarks and ultrasound probe position is needed. This additional image would be preferably photographic or nearly photo-realistic. 6. Figure 2A and 2B: The resolution of Figure 2 is too low. Please provide higher resolution images, if available. The overall figure should be labeled as M-mode. It would be helpful to label the landmarks in the upper B-mode image. The M-mode images also needs to be labeled, especially for the letters A and B. Since this Figure 2 seems to make an argument for the utility of IVC collapsibility and diameter in shock resuscitation, it would be expected that data for both collapsibility and diameter would be presented. Please provide additional data on IVC collapsibility either before or earlier in resuscitation vs later. Please provide the measured IVC diameter. 7. Figure 2C: This timeline would benefit from labeling regarding when the images in 2A and 2B were obtained, and relevant interventions like fluid boluses.

Answers:

1. I have now elaborated briefly on the advantages and disadvantages of different ultrasound approaches to the IVC as requested (Page 3, second paragraph).
2. I have added a three dimension Figure to clarify the concept (Figure 2).
3. Similar to point 1 of reviewer 1. The term has been unified.
4. I have now clarified the effect of abdominal compartment syndrome on IVC diameter as requested (Page 4, second paragraph).
5. The photographic image of external landmarks and ultrasound probe position was added as requested (Figure 1). All other suggested changes in the figures were exactly followed as advised by the reviewer.

4. Reviewer's code: 00502871

Comment: This is a useful review of the value and pitfalls of sonographic evaluation of the vena cava in patients with shock. The suggestions by the author, an experienced clinician, are helpful.

Answer: Thank you for the highly encouraging comment, nothing to answer.

Finally, I hope that my response will satisfy the reviewers and that this article will find a place in your reputable journal.

Best regards

Yours Sincerely

Fikri M. Abu-Zidan, MD, FACS, FRCS, PhD, Dip Applied Statistics

Professor, Acute Care Surgeon, Point-of-care sonographer, and statistical consultant
Department of Surgery, College of Medicine and Health Sciences,
UAE University, Al-Ain, United Arab Emirates
Tel: 0097508335390
Fax: 00971507672067
E-mail: fabuzidan@uaeu.ac.ae