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Suggested Reviewers:

Opposed Reviewers:
Dear Editor,

I am writing to bring to your attention the attached letter.

Sincerely,

Francesco Sisini
Novel interest about cardiac variation of internal jugular vein for the evaluation of the hemodynamics

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In a recent issue of Ultrasound in Medicine and Biology, we read the article entitled “Cardiac variation of internal jugular vein for the evaluation of hemodynamics” (Nakamura et al., 2016) with great interest. In such paper, the authors, reported that for the first time it might be possible to estimate hemodynamics parameters by analysing the cardiac variation in the cross sectional area (CSA) of the IJV. The obtained CSA trace, represents a periodic signals that nicely reproduces the a, c and v waves and the x and y descents of the jugular venous pulse (JVP). The authors declare that at the best of their knowledge no study has examined the cardiac variation in the CSA of the IJV. In fact, last year, our group published on this same journal the proof of concept of this methodology (Sisini et al., 2015) practically simultaneously with another similar paper (Sahani et al., 2015). Moreover, nn the same issue of this journal where it was published the paper by Nakamura et al, is present a further paper of our group that demonstrates the clinical applicability of this innovative ultrasonic methodology(Sisini et al., 2016).

We hope that the flourishing of publications about this topic will lead to the revision of the JVP, which is certainly one of the most solid parameters that can take pictures of the heart brain axis, overcoming significant technical challenges in acquiring flow information with the usual methods of Doppler ultrasonography (Zamboni, 2016). The JVP was in fact, a fundamental parameter in medical diagnostics but in recent decades has been phased out, especially because of the technical problem of trying to acquire it with the traditional method.
References


Sahani, A K, Shah, M, Joseph, J, Sivaprakasam, M. Carotid and Jugular Classification in ARTSENS. JBHI,2015;PP:1

