Reviewer's report

**Title:** Beneficial Aspects of Real Time Flow Measurements for the Management of Acute Right Ventricular Heart Failure following Continuous Flow Ventricular Assist Device Implantation

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**Reviewer:** Ehsan Natour

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Comments article Beneficial Aspects of Real Time Flow Measurements for the Management of Acute Right Ventricular Heart Failure following Continuous Flow Ventricular Assist Device Implantation

The authors present an interesting case of LVAD in combination with ECMO. However, there are some issues with the article. The English could use work; also several units are incorrect in the text. Could this be due to the conversion process to pdf?

Regarding the transvalvular gradient over the Tricuspid valve, I assume the authors mean a TR jet with a gradient of 48 mm Hg. This should be worded differently; the current wording to me implies Tricuspid Stenosis.

Overall, the authors present a clinical case where the accurate measurement of flow is emphasized. They bring up a valid point concerning the inability of TEE to be inserted in patients for a prolonged period and underline the inaccuracy of current rotational blood flow calculations. They could also comment on the fact that incorporating this into the assist devices removes the necessity of different modalities of cardiac output measurement.

In this case, the reduction of flow and loss of pulsatility can be interpreted as a useful early sign of inadequate perfusion of the patient and the advent of RV failure.

However, as they claim this to be an early marker of adverse events, they could strengthen their article by supplying information about other clinical measurements implying RV and overall circulatory failure. When did CVP rise and what was the time path from decreasing flow to renal failure? In addition, a mean CVP of 16 mm Hg can be seen as relatively high but as the measurement is prone to confounding factors such as ventilator support. Reporting the change in CVP might be more informative.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Declaration of competing interests:**
I declare that I have no competing interests