Author’s response to reviews

Title: Haemodynamics and oxygenation improvement induced by High Frequency Percussive Ventilation in a hypoxic cardiac surgery patient.

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Author’s response to reviews: see over
To reviewer Christian Gernoth

It is with great pleasure that we resubmit our manuscript, for consideration of publication in Journal of Medical Case Reports. We appreciate the excellent input of the expert reviewers. All the authors have reviewed the paper and have approved of its resubmission. None of the data are submitted elsewhere for consideration.

Reviewer writes:

One point that is still unclear for me is that you described the necessity of increasing inspiratory pressure levels to treat/ prevent hypercapnia with respiratory acidosis. But the demonstrated pH under conventional ventilation showed alkalosis? If you could comment on this...

We would like to thank the reviewer for identifying this missing information. We appreciate the reviewer identifying this important piece of information missing from the manuscript. We increased the inspiratory pressure levels to treat/prevent hypercapnia but the pH showed an alkalosis due a metabolic impairment. Gastric suction and diuretic therapy with furosemide have induced metabolic alkalosis. We had tried to treat lung atelectasia with conventional ventilation (low tidal and high peep level) but it wasn’t possible due to an elevated peak pressure and a resulted insufficient tidal volume. So, we tried to improve gas exchange with an alternative modality of ventilation such HFPV.

We thank the reviewer for this insightful comment and excellent input and we hope for consideration of publication in Journal of Medical Case Reports.

To reviewer Umberto Lucangelo

The reviewer writes:

1) The authors should specified which sedation protocol was used.
2) Was the patient paralyzed during HFPV or not?
3) The ventilation circuit of HFPV was actively humified?

We appreciate the reviewer identifying this shortcoming in our manuscript.

1) We utilized an analgesic-sedation therapy with the TCI Orchestra Base Primea pump, performed with Remifentanil site-effect-concentration between 0,5 to 0,9 ng/ml (Minto protocol) and with propofol even at site-effect-concentration of 1-1,2 mcg/ml (Schnider protocol).

2) The patient wasn’t paralyzed with any curare during HFPV treatment.
3) The ventilation circuit of HFPV was actively humidified with a double system of humidification due to the elevated flow that move inside the ventilation circuit.

We thank the reviewer for the excellent input and for identifying this missing information.