Author’s response to reviews

Title: Regional anticoagulation with heparin of an extracorporeal CO2 removal circuit: a case report

Authors:

jacopo tramarin (trama21@gmail.com)
Andrea Cortegiani (andrea.cortegiani@unipa.it)
Cesare Gregoretti (c.gregoretti@gmail.com)
Filippo Vitale (fi.vitale@hotmail.it)
Cesira Palmeri (cesira.palmeri@unipa.it)
Pasquale Iozzo (pasquale.iozzo@libero.it)
Francesco Forfori (francesco.forfori@unipi.it)
Antonino Giarratano (antonino.giarratano@unipa.it)

Version: 2 Date: 12 Mar 2019

Author’s response to reviews:

Dear Editor

Dear Reviewers

Thank you very much for your revision that was more than helpful to improve our manuscript.

We provide here a point-by-point reply to your comments and queries.

Looking forward to receiving your response and those from Reviewers, if they have the chance to see the manuscript for a second time.

Best regards

Jacopo Tramarin, MD
Reviewers:

Comment: Add a paragraph at the end of the Introduction that explains why this case report is presented (what is unique and adds to the medical knowledge)

Reply: Thank you for your giving us the opportunity to clarify this point, a new paragraph was added and the text has been modified as follows: “The best anticoagulation strategy for ECCO2r is still debated [2,3]. We present the case of a COPD patient with acute respiratory failure who has been treated in intensive care unit (ICU) with ECCO2r support using a regional heparin anticoagulation method.” (page 3, lines 57-59)

Comment: The case report should include past medical, social, environmental, family and employment history.

What medications was the patient receiving prior to diagnosis? Did the patient smoke, and/or consume alcohol?

Give detailed physical and neurological examination on admission. What was the pulse, blood pressure and temperature, on admission?

Reply: Thank you for your comment, following your requests we did the needed necessary modifications adding details. The text has been modified as follows: “We report the case of a 56 years old married male, height 172 cm, weight 75 kg, body mass index 25.4 kg/m2. Working as employee, who was admitted to our emergency department for severe dyspnea and desaturation.

The patient had with a history of heavy smoking (30 pack year) and no alcohol intake. In the last year, he had two hospitalizations for an acute exacerbation of chronic obstructive pulmonary disease (COPD) and was classified as COPD GOLD class C. He was admitted in ICU and eventually was tracheostomized. After ICU he was decannulated and actually he showed a
former closed tracheal stoma. Moreover, he suffered from type II diabetes and hypertension and presented a former closed tracheal stoma after the last ICU admission for COPD exacerbation.

The patient’s medication history included: Ramipril, Pantoprazole and inhalatory Indacetarol/Glycopyrronium.

At arrival, patient showed a hypercapnic respiratory acidosis (pH 7.24, pO2 45 mmHg, pCO2 70 mmHg, HCO3- 32 mEq/L). Standard medical therapy and noninvasive ventilation (NIV) were immediately started. His neurological examination was normal with a Glasgow coma scale of 15, his heart rate (HR) was 106 beat per minute (BPM), peripheral oxygen saturation (SpO2) was 86%, non invasive blood pressure (NIBP) was 135/85 mmHg and a temperature of 37.8°C."

Comment: Give antibiotics given with duration, routes of administration, and dose.

Give the doses of all medications that were given and their doses.

Reply: Thank you for your comment and for allowing us to implement this point, following your indications the text has been modified as follows: “Mechanical ventilation in pressure support mode was started in the ICU associated with inhaled salmeterol and fluticasone 50 mcg/100mcg inhalational therapy every 8 hours.” (page 3-4, lines 83-85). Furthermore “Due to strong suspicion of a pulmonary infection, WBC count of 22 109/L and high procalcitonin (PCT) serum level 12 ng/ml, a broncoalveolar lavage was collected and intravenous broad-spectrum empiric antibiotic therapy with Piperacillin-Tazobactam 4.5 gr every 8 hr and vancomycin 500 mg every 6 hr were started. After 72 hours, qualitative bronchial cultures showed a negative gram stain and an heavy growth of P. aeruginosa. At this point intravenous Cefepime 2g every 8 hr was started.” (page 4, lines 86-92)

Comment: Give all results of laboratory findings (i.e. CBC, liver and renal functions), urinalysis, serology, microbiology etc) How were cultures collected, transported and cultivated for aerobic, anaerobic bacteria, and fungi? Were blood culture obtained? What did the gram stains of the cultures show?
Reply: Thank you for your queries, we did increase the content and information provided in our case presentation according to your requests. However we do believe that full description of all the requested clinical and laboratory findings, may make the manuscript hardly understandable for the readers without improving clarity. Moreover we tried to balance completeness of information and the need to stay focused on the case report message. In conclusion we believe that this amount of information addresses the instructions for authors of journal of medical case report.

Comment: Were any radiographic and other scans done? Show a representative X ray and scans

Reply: Thank you for your comment which gave us the opportunity ameliorate the clarity of the case report. We attached a file with a new figure taken from the thoracic CT scan taken on day 1 and we modified the text as follows “Figure 1. Chest computerized tomography executed on day 1 showing diffuse centrolobular emphysema and a fibrothorax aspect. Air broncograms were evidenced bilaterally at bases.” (page 10, lines 268-270)

Comment: Provide the whole clinical course of the patient until discharge.
Give information about follow-up for at least 6 months

Reply: Thank you for your comment. Please note that the patient died on day 9 after admission as reported in line 108. As a consequence the requested information cannot be provided.

Comment: add a paragraph at the beginning of the Discussion that summarizes the case and describes what is unique in this case compared to what is available in the literature.

Reply: Thank you for your comment, following your indications the text has been modified as it follows: “To the best of our knowledge, this case represents the first report in literature of a regionally anticoagulated ECCO2R in a COPD patient with an acute respiratory failure. The main finding of this case report is the efficacy and safety of using ECCO2r with a heparin regional anticoagulation regimen.” (page 5, line 122-125)