



ECMO AS A BRIDGE TO RECOVERY : A CASE SERIES

LJUBIČIĆ L.¹, Pavliša G.¹, Džubur F.¹, Puretić H.¹, Štajduhar A.¹, Žuljević E.¹, Samaržija M.¹

¹ Klinički bolnički centar Zagreb, Zagreb, Croatia
Klinika za plućne bolesti Jordanovac

Objective:

INTRODUCTION

In most cases of influenza A infection, the disease is mild. The most important risk factors for a complicated clinical course are older age, obesity, smoking, and impaired immunity. The same risk factors are true for Legionnaires' disease. Sometimes, the severity of the clinical course of both infections requires mechanical ventilation (MV) or even extracorporeal membrane oxygenation (ECMO). Recent studies have found that ECMO reduced in-hospital mortality in patients with respiratory failure. It can be utilized in cases of severe pneumonia and acute respiratory distress syndrome (ARDS), allowing the lungs to regenerate, and prevent aggressive ventilation-related lung injuries.

CASE REPORT

TORAKS 2020

10. kongres Hrvatskog torakalnog društva
10th Congress of the Croatian Thoracic Society

16.-19. rujan | September
Hotel Hilton Garden Inn, Zagreb



htd | hrvatsko
torakalno
društvo

We present patients treated at our center, aged 53, 64, and 65 years. The first two patients were men, admitted due to the pneumonia caused by influenza A virus, and the third patient was a woman with ARDS caused by Legionella infection. All patients were at risk for a complicated pneumonia owing to the presence of prior cardiac disease, smoking, chronic obstructive pulmonary disease, obesity or, in case of the last patient, biological therapy for rheumatoid arthritis. All patients had extensive bilateral pulmonary infiltrates visible on MSCT, severe hypoxemia and hypercapnia refractory to the conventional MV. In view of the severe sepsis and a worsening organ function (lung, cardiac, renal, and hepatic), all patients were intubated and mechanically ventilated. Antibiotic treatment, and inotropes alongside other supportive measures were started. The patient with Legionella induced ARDS was also treated with cytokine hemoadsorption and intravenous immunoglobulin (IVIg). Despite the MV, arterial oxygenation remained insufficient and their conditions deteriorated. Consequently femoral-jugular veno-venous ECMO was instituted allowing protective mechanical ventilation. In each patient, ECMO was introduced within the first week of the onset of respiratory symptoms. With the respiratory function improvement, ECMO support was decreased, and patients were weaned off after 157, 129, and 158 hours respectively. All three patients were treated with a favourable outcome.

CONCLUSION

These cases showed that in carefully selected patients, vv-ECMO treatment has an excellent outcome. The benefit of ECMO is strongly related to the time factor. Since ECMO therapy can be challenging, it should be reserved for specialized centers with a highly trained personnel. Also, the timely use of additional treatment, such as synthetic haemabsorption and IVIg can benefit patients, reduce inflammatory component, and aid in patient stabilization.