Extracorporeal life support in critical ill immunocompromised adult patients

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Abstract 36.

Acute respiratory failure (ARF) is the first reason for admission to ICU in immunocompromised patients and although survival improved markedly improved in recent years, when need invasive mechanical ventilation remain having significant mortality. Extracorporeal life support (ECLS) depicts one of the ultimate therapies in intensive care and may possibly be beneficial in patients with acute respiratory distress syndrome (ARDS) in general ICU population. Nevertheless, the immunocompromised state has been described as most common relative contraindication to ECLS (1).

Recently, novel data has emerged about ECLS in patients with hematological malignancies (2) and AIDS-related pneumocystis jirovecii (3). However, limited data is available about the type of ECLS according if the purpose was oxygenation or extracorporeal CO2 removal (ECCO2R).

Objectives
Describe the cohort immunocompromised patients on ECLS referral to immunocompetent patients.

Methods
Analysis of cohort of patients supported with respiratory ECLS, with focus on immune status and type of ECLS. Respiratory ECLS was delivered as veno-venous extracorporeal membrane oxygenation (VV-ECMO) if catastrophic respiratory failure, or as extracorporeal CO2 removal (ECCO2R) if ventilations is impaired and could not be optimized keeping protective ventilation. Immunocompetent patients with influenza A H1N1 (H1N1) related ARDS supported with ECLS and immunocompromised patients supported with ECLS.

When was possible, mortality proportions were compared with chi-square.

Results
We identified 45 patients with respiratory support, twelve of them (27%) were immunocompromised: hematology malignancies (5), AIDS (1), pulse of steroids and other drugs (6). On other hand, 15 patients were positive to H1N1 and the group of patients non-immunocompromised (without H1N1) were 18 patients (60%). Demographic and ECLS support details of immunocompromised patients in Table 1 and Table 2.
Four patients were diagnosed with pneumocystis pneumonia, two of them died.

We found difference on inhospital mortality only between patients immunocompetent H1N1 versus immunocompetent non-H1N1 on ECLS, 58% vs 20% respectively (p=0.028). Inhospital mortality according to ECLS and ECLS types are showed in Figure 1.

Conclusions

A similar survival between immunocompromised and non-immunocompromised patients supported with ECLS was watched. Probably, with more data, immunocompromised state as contraindication to ECLS could be reconsidered. More data about immunocompromised patients on ECLS is required.

References


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