Lactate Trends in Veno-Arterial Extracorporeal Membrane Oxygenation Patients Presenting with Sepsis

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BACKGROUND

- Sepsis is a potentially life-threatening medical condition that results from the complication of an inflammatory response due to infection.¹
- Lactate levels in sepsis patients are elevated as a result of organ failure and anaerobic metabolism.²
- Veno-Arterial Extracorporeal Membrane Oxygenation (VA-ECMO) is a specialized form of heart-lung bypass that can be used to treat septic patients with myocardial injury.³

OBJECTIVE

- This study aims to analyze the relationship between lactate levels of VA-ECMO-treated sepsis patients and survival at discharge.

RESULTS

- Of the 20 sepsis patients who underwent ECMO treatment, 30% of the patients survived.
- The average lactate level of patients who survived was 4.18 mmol/L.
- The average lactate level of patients who did not survive was 8.94 mmol/L.

- In patients who survived, lactate levels trended down and stabilized within the first four days of ECMO treatment while lactate levels of the patients who did not survive did not return to within the normal range [0.5-2.1].

CONCLUSION

- Recorded lactate levels before and within the first 4 days of ECMO treatment help to determine trends in patient survival.
- On average, lactate levels well above the normal range resulted in a higher mortality rate.
- Future studies should look to determine if there is a lactate level threshold over which survival is rare.

REFERENCES