Single-Centre Experience of Acute Pancreatitis Requiring Veno-Venous Extracorporeal Membrane Oxygenation

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BACKGROUND & AIM

Acute pancreatitis (AP) can cause systemic inflammation, multiorgan failure and acute respiratory distress syndrome (ARDS)[1]. Severe respiratory failure refractory to conventional mechanical ventilation may require veno-venous extracorporeal membrane oxygenation (VV-ECMO).

Evidence for VV-ECMO in pancreatitis-associated ARDS remains limited, with relatively few published case series[2-6].

Aim: To describe the characteristics, organ support requirements and outcomes of patients with AP receiving VV-ECMO.

METHODS

Retrospective single-centre analysis of patients with acute pancreatitis who received VV-ECMO between 2012 and 2023 at a UK quaternary hospital.

Data were collected from electronic hospital records and paper ECMO referral forms.

Outcomes included survival to hospital discharge, duration of VV-ECMO and requirements for additional organ support.

KEY FINDINGS

- 8 patients received VV-ECMO (2012–2023); 6 male (75%).
- Survival to discharge: 4/8 (50%).
- Alcohol-related AP: 4/8 (50%); gallstones: 2/8 (25%).
- Necrotising pancreatitis: 4/8 (50%).
- Median VV-ECMO duration: 8 days (range 1–20).
- Median pre-ECMO hospital stay: 12 days (range 3–47).
- Renal replacement therapy: 6/8 (75%)
- Inotropic support: 6/8 (75%).
- Four patients (50%) required both RRT and inotropes.

PATIENT CHARACTERISTICS, ORGAN SUPPORT AND OUTCOMES

Patient	Year	Age	Sex	Aetiology	Inotropes	RRT	Necrotising Pancreatitis	ECMO (days)	Survived to Discharge
1	2012	30	M	Alcohol	Yes	Yes	Yes	9	Yes
2	2012	48	M	Unknown	Yes	No	No	7	Yes
3	2014	46	M	Alcohol	No	Yes	No	20	Yes
4	2015	61	F	Alcohol	Yes	Yes	No	1	No
5	2017	40	F	Gallstones	Yes	No	No	2	No
6	2018	47	M	Unknown	No	Yes	Yes	15	No
7	2021	44	M	Gallstones	Yes	Yes	Yes	5	No
8	2023	26	M	Alcohol	Yes	Yes	Yes	17	Yes

Table 1: Patient characteristics and outcomes with aetiology of AP and organ support requirements. RRT, renal replacement therapy.

CONCLUSION

In this small, critically ill cohort, survival to discharge following VV-ECMO was 50%. VV-ECMO may offer rescue respiratory support in pancreatitis-associated ARDS; larger studies are required to clarify patient selection and outcomes.

LIMITATIONS

Small sample size, single-centre retrospective design and no comparator group limit generalisability.

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