Introduction:
The demand for donor lungs is still considerably greater than supply. 17% of patients listed for a lung transplant die within one year [1]. Veno-venous (VV) ECMO is an effective bridging strategy for patients listed for transplant, with end stage respiratory failure, who acutely deteriorate.

Methods:
A retrospective observational study of patients supported by VV ECMO whilst awaiting lung transplantation, over a 67-month period (March 2014 - October 2019) at Harefield Hospital, in the UK.

Results:
32 patients with an acute deterioration of their end-stage lung disease required VV ECMO support as a bridge to transplantation (BTT). The mean age was 34.8 years (range 19-57), 62% were male patients. Aetiology included; end stage cystic fibrosis (n=24, 75%), pulmonary fibrosis (n=4, 12.5%), previous lung transplant failure (n=2, 6.3%), bronchiectasis (n=1, 3.1%) and pulmonary hypertension (n=1, 3.1%). Average duration of ECMO support pre-lung transplant was 11.1 days (range 1-39 days). Cannulation was femoral-femoral (n= 20), Avalon Elite® (n = 6) and femoral – jugular (n= 6). 19 patients (59.4%) underwent lung transplant on VV ECMO support, the others required conversion to veno-arterial (VA) ECMO or cardiopulmonary bypass, most commonly due to haemodynamic compromise. Average duration of invasive ventilation post-transplant was 19.8 days, with 18 patients (56.3%) requiring a tracheostomy. The mean ICU stay was 25.6 days, with an ICU mortality of 21.9% (n =7); in keeping with the literature [2]. However, patients requiring intubation despite VV ECMO (n=7), pre-transplant had a far higher mortality (n=5, 71.4%).

Conclusion:
VV-ECMO is a recognised support therapy for patients awaiting lung transplant. Our overall survival to discharge of 78.1%, suggests favourable outcomes are achievable.

References: