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Severe Diastolic Dysfunction Following Prolonged Extracorporeal Membrane Oxygenation in a Pediatric Burn Patient

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No disclosures to report.
Hospital Course

- Previously healthy 3 yo F admitted after 22% TBSA scald burns
- Develops ARDS and shock requiring VA-ECMO
- VA-ECMO x26 days followed by VV-ECMO x61 days
- Develops renal failure requiring CRRT
- After VV-ECMO decannulation requires high airway pressures, FiO2
- Develops recurrent pulmonary hemorrhage
- Echos: moderate LV dilation, normal systolic function, elevated RV pressures, coronary artery dilation
- Milrinone started due to concern for diastolic dysfunction
Hospital Course

- Cardiac cath demonstrates severe diastolic dysfunction
- Pulmonary hemorrhage resolves with coiling of collaterals
- Respiratory, cardiac and renal failure persist
- Family elect to redirect care

**Cardiac Cath Results**

- High cardiac index
- Normal PVR
- RVEDP 38, LVEDP 55
- Massive AP collateral burden s/p coil embolization
- Dilated coronary arteries
Discussion

- 3 yo F with 22% TBSA burn, develops ARDS and shock requiring prolonged ECMO, as well as severe diastolic heart failure, AP collateral burden, coronary ectasia and renal failure.
- Burns can trigger an inflammatory response with cardiac dysfunction\(^1,2\)
- Incidence of long-run ECMO (>21 days) is increasing\(^3\)
- Little is known about long term cardiovascular effects of ECMO

\textbf{We encourage others to share cardiovascular complications after prolonged ECMO.}

References