Posters

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# Severe diastolic dysfunction following prolonged extracorporeal membrane oxygenation in a pediatric burn patient.

Cara Holton

Johanna I. Orrick

Igor Areinamo

Jenna Miller

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

Caroline Holton, MD
Johanna Orrick, RN, CCRN, BSN
Igor Areinamo, MD
Jenna Miller, MD, FAAP

Children's Mercy Hospital
Kansas City, MO

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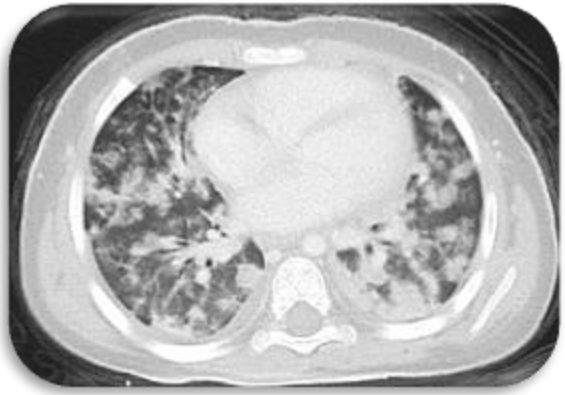
# Hospital Course

- 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

Pre-Cath

Post-Cath

# 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

***We encourage others to share cardiovascular complications after prolonged ECMO.***


References

1. Jeschke MG, Chinkes DL, Finnerty CC, et al. Pathophysiologic response to severe burn injury. *Ann Surg*. 2008;248(3):387-401.
2. Williams FN, Herndon DN, Suman OE, et al. Changes in cardiac physiology after severe burn injury. *J Burn Care Res*. 2011;32(2):269-274.
3. Menaker J, Rabinowitz RP, Tabatabai A, et al. Veno-Venous Extracorporeal Membrane Oxygenation for Respiratory Failure: How Long Is Too Long? *ASAIO Journal*. 2019;65(2):192-196.