Critical Care Explorations

Extracorporeal Membrane Oxygenation Complications in Heparin and Bivalirudin Treated Patients

**OBJECTIVE**
Examine the timing of hemorrhagic and thrombotic complications after ECMO cannulation and compare rates between patients anticoagulated with heparin versus bivalirudin.

**DESIGN**
Single center retrospective cohort study of adult ECMO patients.

**RESULTS**
- 144 ECMO Patients
  - 41% Central VA
  - 40% Peripheral VA
  - 19% Venovenous

**Heparin Resistance**
- Confirmed HIT: 13 patients
- Possible HIT: X
- Bivalirudin: n=13

**CONCLUSIONS**
This study confirms the safety and efficacy of bivalirudin as an alternative anticoagulant in ECMO. The composite rate of thrombotic and hemorrhagic complications was lower with bivalirudin, but not statistically significant (0.06 complications/day on bivalirudin vs. 0.13/day on heparin, p=0.130). Use of bivalirudin may also reduce transfusions of blood products.