Introduction

- Liver transplant is a well-established curative therapy for ESLD frequently requiring prolonged ICU stays.
- With improved surgical techniques and perioperative management, early de-escalation of care and transfer out of the ICU is considered feasible [1, 2].
- However, the ICU length of stay (LOS) can be quite variable.

Objective

- Evaluate independent risk factors for prolonged ICU LOS following pediatric liver transplant (pLT) in a retrospective study.

Design

- Retrospective study in a tertiary care pediatric hospital.

Methods

- IRB approval was obtained.
- Inclusion Criteria: All patients who had pLT at CHLA from June 2000 to June 2015.
- Exclusion Criteria: Concurrent kidney or small bowel transplant.
- Demographic, preoperative, intraoperative variables, perioperative outcomes as well as any complications were retrospectively collected.
- Prolonged ICU stay was defined as longer than 72 hours.
- There were 2 postoperative deaths (one w/in 30 days).

Results

- A total of 156 pLTs were performed.
- 14 were excluded because of concurrent kidney or small bowel transplant.
- Complete data was available for 112 cases which were included for data analysis.
- Indications included:
  - Cholestatic disorders (n=76, 54%)
  - Metabolic disorders (n=21, 14.5%)
  - Idiopathic (n=21, 14.5%)
  - Liver tumors (n=17, 12%)
  - Hepatitis (n=5, 3.5%)
  - Other (n=2, 1.5%) [Figure 1].
- The mean length of ICU stay was 170 hrs (range 12-635).
- There were 2 postoperative deaths (one w/in 30 days).
- Main predictors for increased length of ICU admission were:
  - Age <24 months (p-value 0.04).
  - Preoperative hgb <10.1 g/dL (p-value 0.05).
  - Transfusion of blood products >25 ml/kg (p-value 0.01).
- Children <24 months had a 33% increase in LOS.
- Children w/ preop hgb <10.1 g/dL had a 38% increase in LOS.
- Children transfused >25 ml/kg of blood products had a 30% increase in LOS.
- We did not find any correlation between:
  - Induction agent (i.e. propofol vs. etomidate).
  - Ischemia times.
  - Operative times.
  - IV fluid volume or type administered.

Discussion

- Increased ICU LOS is associated with increased costs and total length of hospitalization and rehabilitation [3].
- Targeting early interventions at those most likely to have a prolonged ICU admission may help expedite their overall recovery process.

References