

6<sup>th</sup> Annual conference on

# Clinical & Pediatric Nephrology

May 09-10, 2016 New Orleans, USA



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### Treatment of critically ill children with kidney injury by sustained low efficiency daily diafiltration

**Background & Aims:** Continuous renal replacement therapy (CRRT) and intermittent hemodialysis (IHD) offer diverse benefits and drawbacks for critically ill children with acute kidney injury (AKI). Sustained low efficiency daily diafiltration (SLEDD-f) involves a conceptual and technical hybrid of CRRT and IHD. We report our SLEDD-f application to critically ill children in the pediatric intensive care unit (PICU).

**Methods:** SLEDD-f was delivered by the new Fresenius 5008 therapy system with blood flow 5 ml/kg/min, dialysate flow 260 ml/min, hemofiltration 35 ml/kg/h for 8-10 hours daily. Changes in blood pressure, blood gas, electrolyte, hemoglobin (Hb) and hematocrit (Hct) were closely monitored.

**Results:** From February 2010 to June 2015, 34 critical patients with a total of 100 SLEDD-f sessions were studied retrospectively. Heparin was used in 56 sessions with no bleeding complications. Hypertension above 135 mmHg returned to normal, hypotension below 90 mmHg showed no drop. Metabolic acidosis and hyperkalemia normalized. Elevated Hb, Hct and their ratio revealed improving hemodilution. Three episodes of intradialytic hypotension and one of circuit clotting led to premature termination. The 28-day survival rate was 81%.

**Conclusion:** This pilot investigation demonstrates that SLEDD-f provides good hemodynamic tolerance and correction of fluid overload, pH and electrolyte imbalance for critically ill children with AKI.

### Biography

Ching-Yuang Lin has obtained his PhD at the National Osaka University, Osaka, Japan. He is the Professor and Associated Dean, College of Medicine, China Medical University and Division Chief of Pediatric Nephrology, China Medical University Children's Hospital, Taiwan. He is an honorary Member of the American Pediatric Society. He was awarded the Best Research Award of National Science Council Taiwan three times and the Outstanding Award for Best Submitted Abstract at 17th Annual Conference of Peritoneal Dialysis by the International Society of Peritoneal Dialysis. He has written more than 300 articles and book chapters on varied fields in pediatric nephrology.

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