Continuous renal replacement therapy as an adjunct therapy for pediatric cardiac ECMO

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Extracorporeal membrane oxygenation (ECMO) is used in critically ill patients presenting acute cardiac and/or pulmonary dysfunctions, who are at high risk of developing acute kidney injury and fluid overload. Continuous renal replacement therapy (CRRT) is commonly used in intensive care units (ICU) to provide renal replacement and fluid management. Acute kidney injury (AKI) and fluid overload are commonplace in critically ill patients requiring ECMO. As we place more complicated patients on ECMO with multiple organ dysfunction, we are increasingly providing multiple organ support. In the neonatal and pediatric population, patient size is a limiting factor in obtaining adequate vascular access. However, in patients supported with ECMO, the extracorporeal circuit provides a platform in which other forms of organ support can be added. In this review, we will look at some of the evidence for providing multiple organ support in conjunction with ECMO. Few studies revealed that combination of ECMO and CRRT in a variety of methods appears to be a safe and effective technique that improves fluid balance and electrolyte disturbances. Prospective studies would be beneficial in determining the potential of this technique to improve the outcome in critically ill patients. Acute kidney injury is frequently observed in ECMO patients. The hypoxic insult and systemic inflammatory response associated with the ECMO process or the underlying condition are the two important factors causing acute kidney injury. Reduced perfusion of the kidneys before ECMO, reperfusion injury after ECMO, and disrupted hormonal mechanisms are predisposing factors. This study will focus on the management using CRRT as adjunct therapy in pediatric patients on VA ECMO. This also aim to sought and characterized the odds of developing acute renal failure (ARF) as well as associated increases in mortality in this population. Records of all cardiac patients in our pediatric intensive care unit receiving extracorporeal membrane oxygenation (ECMO) were reviewed for data with respect to their course.

Biography
Jennifer Maralit has completed her Bachelor’s Degree in Nursing from Southern Luzon Polytechnic College. She is certified in Critical Care by American Association of Critical Care Nurses in 2007. She also has the certification for Pediatric ICU and Neonatal ICU by Indiana University in 2009 and 2010, respectively. She has completed her Master’s Degree in Nursing from the University of the Philippines in 2016. She had her ECMO Specialist Training Course from Glenfield Hospital in Leicester in 2010, United Kingdom and ECMO training for Cardiohelp in Netherlands in 2013. She is currently working in Sheikh Khalifa Medical City (SKMC) since 2005 as a Charge Nurse Educator and ECMO Coordinator.

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