

12<sup>th</sup> Asia Pacific

## PEDIATRICS CONGRESS

May 01-02, 2019 Seoul, South Korea

**The effect in the acid-base status, electrolyte levels and anion-gap following fluid resuscitation with normal saline, lactated ringers and isotonic electrolyte solution fluids among pediatric patients****Mary Joy S Torres and Rodelia G Cipriano**

Philippine Children's Medical Center, Philippines

**Background:** Currently, the increasing number of available fluids has generated controversy about the optimal choice of resuscitation fluid. Popular intravenous fluids in clinical use may have an impact on electrolyte concentration and metabolic balance and each resuscitation fluid should be considered as a powerful pharmacological agent. Based on the non-physiological composition of normal saline, the interest to find a fluid that will provide the optimal composition has moved from synthetic colloid solutions to more physiologic balanced solutions.

**Objective:** To determine the effects in the acid-base status, electrolyte levels and anion-gap following fluid resuscitation utilizing normal saline, lactated ringers and isotonic electrolyte solution fluids among pediatric patients.

**Method:** This is a prospective, interventional study that used sequential sampling method conducted at a tertiary hospital among pediatric patients that required fluid resuscitation at the emergency department. Sequential sampling enabled pediatric residents to immediately treat patients upon emergency room arrival with resuscitation fluids consistent with the study protocol. This simple design of assigning PNSS, PLR and IES was immediately accepted by the residents and incorporated into routine care, facilitating high compliance with the study protocol. Exclusion and inclusion criteria were set and consent was gathered. The pediatric resident then extracted blood samples for blood gas and serum electrolytes prior, on the first and sixth hour of fluid resuscitation. The primary investigator and co-investigators who facilitated the study recorded the values obtained. Data were verified for completeness and accuracy.

**Results:** IES deserves consideration as infusate of first choice. Results showed compelling evidence that balanced solutions should be considered the preferred resuscitation fluid in most acutely ill patients. It was found safe in terms of their impact on electrolytes and metabolic equilibrium. PNSS leads to hyperchloremic metabolic acidosis and noted more derangements in the electrolytes level primarily hypokalemia and hypocalcemia. PLR induced hyponatremia, in this group, several patients had re-shocked hence shifted to other crystalloids based on electrolyte derangements.

**Conclusion:** Balanced salt solution in the form of IES deserves consideration as infusate of first choice and can be considered the preferred resuscitation fluid in most acutely ill patients. Further studies concentrating on pediatric populations are needed to show whether resuscitation with balanced or isotonic solutions affects important clinical endpoints before a recommendation for one type of fluid can be made.

**Biography**

Mary Joy S Torres has pursued BS degree in Medical Technology at University of Santo Tomas, España, Manila, Philippines. She has obtained Pediatric Residency Training at Philippine Children's Medical Center and then obtained her fellowship training on Pediatric Critical Care at the same institution. She is now a practicing Pediatric Intensivist.

joyjoymd@gmail.com