

# ACUTE KIDNEY INJURY IN NEWBORNS IN POPAYÁN - COLOMBIA. MULTICENTER PROSPECTIVE COHORT STUDY.

Pantoja O<sup>a</sup> (\*), Realpe S<sup>a</sup>, Restrepo JM<sup>b</sup>, Cabra-Bautista G<sup>a</sup>, Velasco A<sup>a</sup>, Calvache JA<sup>a</sup>.

a. Universidad del Cauca, Popayán, Colombia.

b. Department of Pediatric Nephrology, Fundación Valle del Lili, Cali, Colombia.

(\*) mail: opantojag@unicauca.edu.co

Department of Pediatrics, Universidad del Cauca, Popayán, Colombia.

**Background:** Acute kidney injury (AKI) is a frequent condition in critical newborns, characterized by a decrease in kidney function and associated with poor outcomes. It is considered an important cause of neonatal mortality. A multicenter prospective cohort study was conducted in three neonatal intensive care units of Popayán, Colombia to evaluate the clinical course of AKI and their outcomes.

**Methods:** Prospective cohort study, we included newborns >2 and <28 days admitted with diagnosis of AKI according to neonatal modified Kidney Disease Improving Global Outcomes (KDIGO), during the period from June 2019 to December 2020. Chromosome incompatible with life, major kidney malformations and severe congenital heart disease were excluded. Perinatal history, comorbidities, and management were assessed. A seven-day follow-up was carried to identify the recuperation of kidney function, need for renal replacement therapy, or death.

**Result:** We enrolled 21 patients during the period from June to December 2019. The median gestational age was 35 weeks (29 to 39 weeks). 38% had perinatal history of inadequate prenatal control and 28% of gestational infection. The most frequent comorbidities were sepsis in 95% and perinatal asphyxia in 62%. All of the patients were treated with nephrotoxic medications. According to severity, 62% were classified in stage 1, 19% in stage 2, and 19% in stage 3. Stage 1 was more common in preterm and term births. We found more patients stage 3 in term newborns. Concerning the outcomes, 72% recovered their kidney function during the follow-up, 5% needed renal replacement therapy and the mortality was at 14%.

**Conclusion:** In this outcome of the first six months of the cohort, sepsis, perinatal asphyxia, and high use of nephrotoxic medications were observed. AKI was more frequent in premature newborns but was more severe in term births. In critical newborns, AKI is related to elevated mortality.