

Acute kidney injury in children hospitalized for acute gastro-enteritis: prevalence and risk factors.

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OBJECTIVES: To evaluate the prevalence and risk factors for acute kidney injury (AKI) in children hospitalized for acute gastro-enteritis (AGE).

DESIGN: Retrospective cohort study.

SETTING: Pediatric Department, Italy.

METHODS: Inclusion criteria- acute gastroenteritis with serum creatinine at admission and discharge. Pre-existing nephron-urological disease, other systemic disease, chronic diarrhoea were excluded. Dehydration was defined based on WHO classification. AKI was diagnosed using creatinine criteria of the modified KDIGO classification.

ACADEMIC P.E.A.R.L.S

Pediatric Evidence And Research Learning Snippet



AKI in Hospitalized Children for AGE

RESULTS: 114 children with mean age 2.8 + 2.4 years, 57.9% boys

Diagnosis of acute kidney injury (AKI): AKI was seen in 28 /114 (26%) with majority having stage 1 AKI (24/114)(21%). None required dialysis.

Predictors of AKI: The duration of symptoms prior to hospitalisation (OR 2.5 CI 1.3-5.1), dehydration >5% (OR 43.1, CI 5.4, 344.1) and low serum bicarbonate levels (OR 1.6, CI 1.2, 2.1) were independent predictors of AKI. Children with severe AKI had a longer duration of hospital stay.

Conclusion: A quarter of patients with acute gastro-enteritis have acute kidney injury. Children with severe AKI have a longer duration of hospitalisation. Prolonged duration of symptoms prior to hospitalisation, dehydration and metabolic acidosis were important predictors of AKI.

Comments: This study highlights the high prevalence of acute kidney injury in children with acute gastroenteritis. The volume status and early initiation of treatment are important aspects that may have a role in prevention of AKI in these children.

EXPERT COMMENT

“Acute gastroenteritis, a common problem in pediatric patients is an important risk factor for acute kidney injury. Early initiation of rehydration may have an important role in prevention of AKI. The study reflects the incidence of AKI in developed countries. In developing countries like ours, the prevalence is probably higher.”

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With warm regards,

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Reference

Marzuillo P, Baldascino M, Guarino S, Perrotta S, Miraglia Del Giudice E, Nunziata F. Acute kidney injury in children hospitalized for acute gastroenteritis: prevalence and risk factors. *Pediatr Nephrol.* 2021 Jun;36(6):1627-1635. doi: 10.1007/s00467-020-04834-7.