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HAEMOGLOBINURIA- ASSOCIATED SEVERE CHILDHOOD ACUTE KIDNEY INJURY IN UP, INDIA

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Objectives: Haemoglobinuria resulting from severe intravascular haemolysis is a known cause of acute kidney injury (AKI). In the tropics it has been commonly associated with severe malaria (Blackwater fever) and Glucose-6-phosphate dehydrogenase (G6PD) deficiency. Some other known causes of intravascular haemolysis with haemoglobinuria include severe sepsis, haemoglobinopathy, autoimmune haemolytic anaemia, drug reactions, blood transfusion reactions and use of herbal remedies. We observed an increasing prevalence of intravascular haemolysis with haemoglobinuria in our paediatric patients with AKI which has also been made in some other countries in U.P, India. There was a need to further characterise these observations and advocate for preventive measures.

Methods: To study the prevalence and outcome of Haemoglobinuria-associated AKI among children with KDIGO Stage 3 AKI admitted into the Paediatric Nephrology Unit in Shakuntala Hospital, Prayagraj. Information was obtained from the Unit's data base on consecutively presenting children aged 16 years and below admitted between October 2018 and September 2019 who had features of haemoglobinuria and AKI with regards to prevalence, aetiology and outcome.

Results: Out of 100 children admitted into the PNU with AKI during the study period, 63 (63.2%) presented with haemoglobinuria and 20 (20%) of those with haemoglobinuria were male, giving a male: female ratio of 1.4:1. Their ages ranged between 2 and 15 years with a mean (SD) of 6.5 (3.8) years. The 4 most common associated aetiologies were Malaria, Sepsis, G6PD Deficiency and possibly drug reaction since many had received some form of treatment before presentation.

Conclusions: The 63.2% prevalence of haemoglobinuria in children with AKI in our setting is high and institution of early measures to prevent kidney damage is key. Steps such as appropriate treatment of the underlying cause of illness and liberal fluid administration with or without alkalinisation of the urine may prevent kidney damage.