

OUTCOMES AND FACTORS ASSOCIATED WITH ACUTE RENAL FAILURE AMONG CHILDREN WITH ACUTE POST-STREPTOCOCCAL GLOMERULONEPHRITIS

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Abstract. Acute post-streptococcal glomerulonephritis (APSGN) is the most common type of acute glomerulonephritis in children. Acute renal failure (ARF) is an uncommon but serious complication in children with APSGN. The aims of this study were to identify outcomes and factors associated with ARF among children with APSGN so that patients presented with these factors should be closely monitored. We conducted a single-centered, case-control study by reviewing the medical records of children aged < 18 years with APSGN at Srinagarind Hospital between 2008 and 2017. Out of a total of 128 patients, 43 (33.6%) developed ARF. The mean ages in the ARF and non-ARF groups were 9.2±2.9 and 9.2±2.6 years, respectively. On univariate analysis, nephrotic-range proteinuria, severe hematuria and hypoalbuminemia were significantly associated with ARF ($p < 0.05$). On multivariate analysis, hypoalbuminemia was significantly associated with ARF (adjusted odds ratio = 7.87; 95% confidence interval (CI): 2.82-21.93; $p < 0.001$). The median time to normalization of renal function in the ARF group was 3.4 (95% CI: 1.4-5.5) weeks. The median time to resolution of proteinuria in the ARF group was 20.7 (95% CI: 15.1-26.4) weeks and in the non-ARF group was 6.9 (95% CI: 5.1-8.6) weeks. The median time to resolution of hematuria in the ARF group was 27.1 (95% CI: 21.9-32.4) weeks, twice as long as the non-ARF group (14.0; 95% CI: 11.4-16.6 weeks). No end-stage renal disease was found in this study. Hypoalbuminemia was the only factor significantly associated with ARF in children with APSGN. Therefore, APSGN patients who had hypoalbuminemia should be aware of severe disease.

Keywords: Post-streptococcal glomerulonephritis, acute glomerulonephritis, associated factor, acute renal failure, children

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