

**Low-dose ofatumumab for multidrug-resistant nephrotic syndrome in children: A randomized placebo-controlled trial** (*Pediatr Nephrol.* 2020 Jan 28. doi: 10.1007/s00467-020-04481-y)

Children with multidrug-resistant nephrotic syndrome (MRNS) are exposed to drug toxicity and have increased risk of kidney disease progression. In small case series, the fully humanized anti-CD20 antibody ofatumumab (OFA) has been shown to have some benefits. In this double-blind randomized placebo-controlled trial, children who had been resistant to a combination of calcineurin inhibitors (CNI) and steroids, with or without mycophenolate mofetil (MMF) or rituximab, were randomized to receive single infusion OFA (1500 mg/1.73 m<sup>2</sup>) or normal saline. The authors assessed complete or partial remission of proteinuria after 3, 6 and 12 months, as well as progression to end-stage kidney disease. After 13 of the planned 50 children (25%) were randomized, the data monitoring board recommended study termination for futility. All 13 children remained nephrotic. Renal function worsened in 5 children (2 in Intervention arm, 3 in Placebo arm) who required renal replacement therapy during the study period. To conclude, OFA given in one single infusion of 1500 mg/1.73 m<sup>2</sup> doses does not induce remission in MRNS. The search for an effective management strategy in this group of children continues.

**Crescentic glomerulonephritis in children** (*Pediatr Nephrol.* 2020 Feb 12. doi: 10.1007/s00467-019-04436-y)

There is paucity of information regarding crescentic glomerulonephritis (cGN), the most frequent immunologic cause of acute kidney injury in children. In this study, over a period of 16 years, the authors retrospectively analyzed the data in 60 pediatric patients diagnosed with cGN. The underlying diseases were immune complex GN (45, 75%), including IgA nephropathy (19, 42%), lupus nephritis (10, 22%), Henoch-Schonlein purpura nephritis (7, 16%) and post-infectious GN (7, 16%); ANCA-associated pauci-immune GN (10, 17%), and anti-glomerular basement-membrane GN (1, 1.7%). Patient CKD stages at time of diagnosis and at a median of 362 days (range 237-425) were CKD I:  $n = 13/n = 29$ , CKD II:  $n = 15/n = 9$ , CKD III:  $n = 16/n = 7$ , CKD IV:  $n = 3/n = 3$ , CKD V:  $n = 13/n = 5$ , respectively. Forty-eight/60 children were treated with  $\geq 5$  methylprednisolone pulses and 53 patients received oral pre-dnisolone in combination with mycophenolate mofetil, cyclosporine A, and/or cyclophosphamide, rituximab, azathioprine, tacrolimus, and plasmapheresis/immunoadsorption. Overall, the treatment success was dependent on early diagnosis and aggressive therapy, as well as on the percentage of crescentic glomeruli on renal biopsy and on the underlying type of cGN. CsA and MMF seemed to be effective alternatives to cyclophosphamide.

**Kidney and blood pressure abnormalities 6 years after acute kidney injury in critically ill children: A prospective cohort study** (*Pediatr Res.* 2020 Jan 2. doi: 10.1038/s41390-019-0737-5)

Acute kidney injury (AKI) in pediatric intensive care unit (PICU) children may be associated with long-term chronic kidney disease or hypertension. This study was conducted to study the association between renal sequelae (low estimated glomerular filtration rate (eGFR) or albuminuria) and blood pressure (BP) consistent with pre-hypertension or hypertension, 6 years after PICU admission. This was a longitudinal study of children admitted to two Canadian PICUs (January, 2005-December, 2011). Of 277 children, 25% had AKI. AKI and stage 2/3 AKI were associated with 2.2- and 6.6-fold higher adjusted odds, respectively, for the 6-year outcomes. Applying new hypertension guidelines attenuated associations; stage 2/3 AKI was associated with 4.5-fold higher adjusted odds for 6-year CKD signs or elevated BP. The study concluded that kidney and blood pressure abnormalities are common 6 years after PICU admission and associated with AKI. Other risk factors must be elucidated to develop follow-up recommendations and reduce cardiovascular risk.

**Change in dyslipidemia with declining glomerular filtration rate and increasing proteinuria in children with chronic kidney disease** (*Clin J Am Soc Nephrol.* 2019;14:1711-18)

Dyslipidemia, a risk factor for cardiovascular disease, is common in chronic kidney disease (CKD) but its change over time and how that change is influenced by concurrent progression of CKD have not been previously described. A total of 508 children with CKD had 2-6 lipid measurements each, with a median (IQR) follow-up time of 4 (2.1-6.0) years. Longitudinal increases in proteinuria were independently associated with significant concomitant increases in non-HDL cholesterol [nonglomerular: 4.9 (3.4-6.4) mg/dL; glomerular: 8.5 (6.0-11.1) mg/dL] and triglycerides [nonglomerular: 3% (0.8%-6%); glomerular: 5% (0.6%-9%)]. Decreases in GFR over follow-up were significantly associated with concomitant decreases of HDL cholesterol in children with nonglomerular CKD (-1.2 mg/dL; IQR, -2.1 to -0.4 mg/dL) and increases of non-HDL cholesterol in children with glomerular CKD (3.9 mg/dL; IQR, 1.4-6.5 mg/dL). The study concluded that dyslipidemia is a common and persistent complication in children with CKD and it worsens in proportion to declining GFR, worsening proteinuria, and increasing body mass index.

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