Peritoneal dialysis for acute kidney injury in the intensive care unit

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Abstract:

Acute kidney injury AKI is a common complication in the pediatric and neonatal intensive care units. When renal replacement therapy RRT is indicated the choice of dialysis modality is broad to satisfy the patient needs. Many factors influence the choice of dialysis modality including patient's age, nutrition and fluid needs and the local expertise and resources. Although Peritoneal PD is a simple technique that can be initiated quickly, no highly trained personnel nor expensive and complex apparatus are required and systemic anticoagulation is not needed, its practice declined in favor of hemodialysis and CRRT. In some studies it has been shown that PD can provide adequate clearances when applied to acutely ill children and the outcomes of critically ill patients with AKI treated with PD are comparable to other dialysis modalities.

Peritoneal dialysis is a successful modality for children with AKI including some critically ill children and the decision for its use has to be re-considered.

Polycystic kidney disease; clinical Aspects

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Abstract: Polycystic kidney disease PKD is one of the important inherited causes of chronic kidney disease in children. The term PKD refers to either autosomal recessive polycystic kidney disease ARPKD or autosomal dominant polycystic kidney disease ADPKD, although these diseases have classically been considered "adult" (ADPKD) or "infantile/pediatric" (ARPKD), it is now clear that both diseases can present in children and adults. The spectrum of clinical manifestations vary greatly between children, chronic kidney disease may begin in utero and may lead to early abortion or oligohydramnios and lung hypoplasia (Potter syndrome sequence) in the newborn or it may manifest itself later in life. Some affected patients may remain asymptomatic and would be diagnosed in adulthood with renal insufficiency or end stage renal disease.

Patients may present with bilateral renal enlargement, arterial hypertension and/or intrahepatic biliary dysgenesis. It is a multisystem affection which may cause growth failure, neurocognitive disorder and multiple psychosocial problems.

In summary, PKD varies greatly in its clinical presentation and severity, and in some children it may present with advanced complications. Early detection, clinical and genetic diagnosis may explore future direction for disease progression monitoring and treatment direction.