Role of ultrasound in early detection of congenital anomalies of the kidneys and urinary Tracts in Neonatal Intensive Care Unit

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Introduction

Congenital urinary tract anomalies are relatively frequent and may be found in about 3% to 4% of the population (Kim et al., 2009). Also they account for 20 to 30% of all anomalies identified in the prenatal period (Dugoff, 2002).

Congenital anomalies of the kidney and the urinary tracts constitute major causes of renal insufficiency (Kim et al., 2009).

The prevalence of congenital urologic abnormalities is roughly the same in various geographical locations, being 45% in Japan and 33% in North America (Hálek et al., 2010).

Congenital anomalies of the urinary tract are well known causes of urinary tract infections (UTIs) in children, as about 40% of infants and children with symptomatic UTI are reported to have vesicoureteric reflux (VUR) and 20% have other associated anomalies in urinary tract (Ahmedzadeh and Askarpour, 2007).

Urinary tract infections (UTIs) have been considered an important risk factor for development of renal insufficiency or end-stage renal disease in children (Elder, 2007). About 10%-30% of children with febrile UTIs develop renal scarring, which is thought to be a risk factor for hypertension and renal insufficiency in longer term (Pennesi, 2008).

Therefore, early diagnosis of congenital anomalies of the urinary tract is crucial, as potential targeted therapy either (conservative or surgical) which in role prevent irreversible damage of the renal parenchyma (Jan et al., 2010).


