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Association between birth weight and renal function in adolescense in children born with vesicourinary reflux

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Introduction: It's widely approved that children with a history of reflux are of greater risk for development of renal scarring and impaired kidney function later in life, which may be expressed by development of chronic diseases such as hypertension in adulthood. Although during the past two decades, researchers have tried to unravel the hypothesis that there is a relation between low birth weight (LBW) and kidney function in adolescence, the published data regarding the effect of birth weight on kidney function in children born with vesicourinary reflux is still insufficient to prove or reject any relationship in this special category of children.

Purpose: Is to examine whether this association exists and onto which parameters, in a cross-sectional study.

Materials and Methods: Sixty-one children (20 boys, 41 girls) born the years from 1985 to 1989, in different parts of Greece, with vesicoureteral reflux which was diagnosed either due to progenital testing, or urinary tract infection (UTI) such as cystitis.Detailed personal and family history was taken, Also anthropometric measurements of each adolescent such as weight and height, calculation of glomerular filtration rate (GFR), and fractional excretion of sodium (FeNa), measurement of albumin, a1 and b2 globulin and microalbumin of the urine, creatinine clearance (CrCl) from a 24-hour-urine collection, complete lipid profile and cystatin. Blood pressure measurement (BPM)and grade of vesicoureteral reflux and DMSA are taken into account. Volume, width, length and thickness of kidneys was calculated with the use of ultrasound diagnostic machine.

Results: Results obtained, prove a positive relation of birth weight (p=0.01), on blood pressure in adolescence, in children diagnosed with any degree of vesicourinary reflux. Renal function seems to be intact, respectively the cause of vesicoureteral reflux, the volume of kidneys in adolescence (p=0.386 and p=0.483 respectively for right and left kidney) and the values of GFR (p=0.105), CrCl (p=0.213) and cystatin(0.055).

Conclusions: Our results shows that although there is a positive association between blood pressure in adolescence and birth weight, in children born with vesicourinary reflux, no deterioration of renal function was found. The reason is probably that higher blood pressure maybe due to other confounding factors- difficult to measure such as socioeconomic status.

Biography

Christos Tzormpatzakis Graduated from the 5th general Lyceum of Ilion-Athens in the year 1996. The same year was enrolled in the 1st year of Medical faculty, of P. J. Safarik University in Kosice- Slovakia. Graduated on 2002. Occupation license to practice medicine in European Union since 23-7-2004 and specialty of Pediatrics since 5-12-2012. Attended medical training in Greek Air Force school on 2007. Master of Science in medical statistics at Athens University of Economics, on 2012. PhD thesis on "Correlation between birth weight and renal function in children born with vesicoureteral reflux", on 2014. Teacher/Instructor in State Institute of Occupational Training, teaching general Dermatology, Anatomy, Physiology, First Aid, Pediatrics and Neonatology, since 2008

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