Evaluation of Structural Anomalies of Kidney and Urinary Tract in Children with Down Syndrome

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Received: 29 May 2013 / Accepted: 29 August 2013 / Published online: 21 September 2013
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To the Editor: Down syndrome (DS) is the most common chromosomal abnormality with a prevalence of 1.72 per 1,000 total births [1]. The congenital anomalies in Down syndrome can involve any system with varying degree of severity and thus, requires active referral on part of clinician to improve the standard of care in such group of DS patients. At present, screening for renal and urinary tract anomalies is not standard care during the initial evaluation of newborns with DS. To answer this question, we undertook the present study to look for structural anomalies of kidney and urinary tract in cases with Down syndrome. Forty children with chromosomal diagnosis of Down syndrome were enrolled in the study over a period of two months. The age group of patients was birth to 18 y. All patients were screened for any urinary complaints according to predesigned performa. Subjects were further evaluated by ultrasonography of kidney, ureter, and bladder region (KUB) for any structural anomalies. Further DTPA scan, micturating cystourethrography (MCU) were performed in cases where it was indicated. Frequency of urinary symptoms in decreasing order were dysuria (11/40), increased frequency (7/40), incontinence (6/40), hesitancy (6/40), poor urinary stream (3/40), hematuria (2/40) and post micturition dribbling (2/40). Incidence of Renal and Urinary Tract Anomalies (RUTA) were hydronephrosis (20 %), renal parenchymal thickening, dilatation of ureter, renal hypoplasia, vesico-

ureteric reflux, pelvi-ureteric junction obstruction, renal calculi and neurogenic bladder as seen in previous studies [2, 3].

Unlike previous studies, we found a high prevalence of RUTAs in DS pediatric population, supporting our hypothesis [4, 5]. The higher incidence of RUTA in our study may be attributed to small sample size and limited screening of DS patients brought to health facility. Another limitation of our study is that we did not include the derangements in kidney function test and pathological findings like renal hypoplasia, immature glomeruli and tubular dilation. Despite these limitations, our study points to significant abnormality in KUB region of these patients. This needs to be further authenticated by a large population based study so that clinical guidelines are formulated for better care of DS patients in resource poor countries like ours.

Conflict of Interest None.

Role of Funding Source STS awarded to Dr Mayank Jain from the ICMR. He was also awarded for the oral presentation at Medsicon.

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