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Is Joint Hypermobility Associated With Vesicoureteral Reflux?

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Generalized joint hypermobility (GJH) is an inherited connective tissue disease with joint hypermobility in the absence of a rheumatologic disease.[1,2] Generalized joint hypermobility occurs in about 66% of school children with arthralgia of unknown origin.[3] Some data suggest that GJH is more prevalent at earlier age and GJH patients often lead to normal lives.[4] Disorders and disabilities in different organs can be seen GJH.[5] Previous studies reported that children with GJH more frequently had sphincter dysfunction and nonneurogenic bladder. They believed that this condition manifested usually as constipation and possibly fecal soiling in boys and as urinary incontinence and possibly urinary tract infections in girls.[6]

In this issue of the *Iranian Journal of Kidney Diseases*, Pournasiri and colleagues reported the relationship of GJH with vesicoureteral reflux (VUR). They studied 313 pediatric patients with urinary tract infection. They evaluated GJH according to the Beighton scores among the study group. Then divided them into 2 groups based upon VUR screening. The results of this study showed that the frequency of GJH was 37.2% in the control group and 45.7% in patients without VUR and 62.3% in the VUR group. There was a significant difference in GJH frequency between the control group and VUR patients ($P < .001$; odds ratio, 2.79, 95% confidence interval, 1.61 to 4.82). The frequency of GJH was 44.1% in patients with mild VUR, 60.5% in moderate VUR, and 86.2% in severe VUR ($P = .003$). Therefore, GJH should be questioned and examined in children with VUR.[7] Recent studies have also shown an association between voiding and defecation dysfunction and GJH. They showed an increased rate of joint hypermobility in VUR patients. They concluded that an altered composition of the connective tissue of vesicoureteral junction may contribute to the severity of the VUR.[8] Some research suggested that children with voiding dysfunction have a significantly higher prevalence of GJH compared to normal children.[9]

Beiraghdar and coworkers evaluated GJH patients and showed an increased frequency of VUR in these patients. Since they reported a high prevalence of VUR in their study group (about 60%), they suggested that pediatric GJH patients

should be screened for VUR. They also revealed that neurogenic bladder is more prevalent in GJH patients.[10] Based on Gajanan and colleagues' study, it would be important to predict dysfunctional elimination in children born with any syndrome that has GJH.[11] According to the previous studies, collagenous proliferation in primary obstructive and refluxing megaureter could be related to dysfunction of the ureteral smooth muscle. Some studies also demonstrated that type III collagen may play a role in the pathophysiology of refluxing megaureters.[12,13] Changes in the composition of extracellular matrix in the vesicoureteral junction of patients with VUR were also observed previously.

CONFLICT OF INTEREST

None declared.

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Echocardiography Evaluation and Exercise in Hemodialysis Patients

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Cardiovascular disease (CVD) is the most common cause of morbidity and mortality in patients with chronic kidney disease (CKD).[1] Hospitalizations of dialysis patients happen frequently and about one-third are from CVD. The annual cardiovascular mortality in dialysis patients is significantly higher than in the general population and about half of the deaths in dialysis patients are assigned to CVD.[1] Different methods are used for cardiovascular evaluation in patients with CKD. Echocardiography, as a noninvasive and available technique, is the most useful imaging modality for a cardiac assessment.