

Multidetector computed tomography in orthostatic proteinuria?

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Received: 5 March 2010 / Accepted: 23 March 2010 / Published online: 13 April 2010
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Sirs,

Orthostatic proteinuria is a condition characterized by increased protein excretion in the upright position, but normal protein excretion in the supine position, which affects up to 5% of adolescents [1]. Anecdotal observations suggest that orthostatic proteinuria might sometimes reflect incipient renal disease. However, most authoritative reports state that this condition is benign, with renal function remaining normal after as long as 50 years' follow-up. Furthermore, orthostatic proteinuria resolves spontaneously in most patients, being present in about 50% at 10 years and 20% at 20 years [1].

In most subjects with this form of proteinuria, renal ultrasound imaging and Doppler flow scanning reveal entrapment of the left renal vein in the fork between the abdominal aorta and the proximal superior mesenteric artery close to its origin. It has been therefore postulated that partial obstruction to the flow in the left renal vein in the upright position alters glomerular microcirculation, thus leading to increased protein filtration [2, 3].

Very recently, Cho et al. evaluated children and adolescents with orthostatic proteinuria by means of multi-detector computed tomography and noted that both the angle and the distance between the aorta and the superior

mesenteric artery were significantly altered in subjects with postural proteinuria [3]. The sophisticated imaging studies of the report further support left renal vein entrapment in the pathogenesis of isolated orthostatic proteinuria.

The lifetime cancer mortality risks attributable to radiation from a computed tomography examination are considerably higher for children than for adults. It has been estimated that the lifetime cancer mortality risk attributable to the radiation exposure from a single abdominal computed tomography examination in a 1-year-old child is approximately one in 500 [4].

Considering the cancer mortality risk attributable to radiation from an abdominal computed tomography, the benign nature of postural proteinuria, and its spontaneous resolution, we strongly advise against the use of multi-detector computed tomography in postural proteinuria, as suggested by Cho et al. [3]. No imaging studies or renal ultrasound imaging and Doppler flow scanning are currently performed at our institutions in children with isolated postural proteinuria.

References

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