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LETTER TO THE EDITOR

Supernumerary horseshoe kidneys

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(The Editors do not hold themselves responsible for opinions expressed by correspondents)

To the Editor,

We read an excellent pictorial review on horseshoe kidneys by Schiappacasse et al¹ in the January 2015 issue of the *BJR*. We would like to supplement to the list a rare but interesting congenital anomaly associated with horseshoe kidneys.

A supernumerary kidney is a congenital anomaly when there are more than two kidneys in a human body. This can refer to more than two separate kidneys or an additional kidney coexisting with a horseshoe kidney. The true incidence is unknown owing to the rarity of the anomaly. It is believed to be found in both sexes with equal frequency. Embryologically, supernumerary kidney is believed to result from abnormal division of the nephrogenic cord into two metanephric blastemas that eventually form two kidneys with partial or duplicated ureteral bud.^{2,3} If both a horseshoe kidney and a supernumerary kidney coexist, then the half of the horseshoe kidney on the side of the body containing the supernumerary kidney is always small.⁴

Supernumerary kidneys may be drained by a bifid ureter or a separate ureter; may be fused or unfused. In a bifid system, supernumerary kidney lies caudally, and, when a separate ureter is seen, then the supernumerary kidney is cranial to the normal kidney.⁵ The most important differential diagnosis is a duplex kidney, which is associated with two pelvicalyceal systems with a single ureter or double ureters. Duplex kidneys, however, have a single continuous capsule and do not have a separate arterial supply unlike supernumerary kidneys. The number of calyces is greater in supernumerary kidneys and is equal to that of the opposite kidneys in the duplex system.⁴

On imaging, intravenous urogram shows an accessory kidney, nearly always smaller than usual. Advanced imaging modalities, such as scintigraphy, ultrasonography, MRI and CT can clearly differentiate supernumerary kidneys from duplex kidneys accurately. Various urogenital and non-urogenital congenital anomalies are also associated with supernumerary kidneys.

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