Incidental finding of a right-sided supernumerary kidney

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DESCRIPTION
A 59-year-old man with a history of pleural thickening was referred to a CT scan by his general practitioner due to unspecified lung symptoms. The CT scan of thorax and upper abdomen showed normal lung conditions, apart from the pleural thickening, and suspicion of a right-sided supernumerary kidney.

The patient was offered a second CT-scan of the entire abdomen to get a full urinary overview. The supernumerary kidney was found at the L5 level, shown in figure 1. The right-sided supernumerary kidney measured 6×3.8×5 cm, the native kidney 7.1×4.7×4.1 cm, while the left kidney was normal in size, measuring 11×5×5 cm. The parenchyma and location (L1–L2) for the left kidney was deemed normal as well. The two fully separated right-sided kidneys each had a separate ureter. The ureter from the native kidney fused with the renal pelvis of the supernumerary kidney, resulting in a single ureter connecting to the bladder. The CT scan also showed a 3 mm renal calculus in the middle calyx of the left kidney.

Furthermore, the patient consented to a renography that determined the functional distribution to 63%/37% for the left/right side, respectively, shown in figure 2. Of the 37%, the functionality of the native and supernumerary kidneys was determined to 64%/36%, respectively.

The functionality of the right side as well as the supernumerary kidney might have been underestimated due to a more ventral location of the caudally placed supernumerary kidney. The renography showed no signs of obstruction.

Since the patient had not experienced any symptoms related to his condition, such as abdominal pain due to kidney stones or recurring urinary tract infections, and his blood test showed a creatinine level of 104 µmol/L (reference levels 65–105 µmol/L), no further treatment was needed. The patient was informed of the above-mentioned decision and of the fact that the supernumerary kidney supposedly is a rare congenital anomaly.

Only few cases of a supernumerary kidney have been reported in the literature since most patients are often asymptomatic. In some cases, patients experience abdominal pain, fever or a palpable abdominal mass, while pathological conditions such as hydronephrosis, pyelonephritis and renal or ureteral calculi can impact renal function. If necessary, a non-functional or symptomatic supernumerary kidney can be surgically removed, although the risk of concomitant complications after the surgical procedure is important to acknowledge.

Learning points
► It is important to report additional findings or anomalies in the urinary tract.
► Urinary anomalies and clinical symptoms are not always interconnected.
► Additional urinary findings do not always have to affect the clinical decision making.

Figure 1 Abdominal CT with intravenous contrast in arterial phase. The images show the two right-sided isolated kidneys in a sagittal plane (A) and the difference of the upper isolated kidney (B) and the lower isolated kidney (C).

Figure 2 The results of the renography showing the functional distribution (63%/37%).
Images in...

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