Trauma and reconstruction

Right supernumerary kidney: A rare entity

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ABSTRACT

The supernumerary kidney especially on right side is a rare diagnosis. Only few case reports are documented in literature. We report a case of Right supernumerary kidney with partial fusion of right accessory kidney to upper kidney.

Introduction

Renal anomalies are not uncommon however Supernumerary kidney is a rare anomaly. Only a few case reports of supernumerary kidneys have been reported. Supernumerary kidney on a right side is not reported. The supernumerary kidney is associated with multiple renal anomalies. We report a case of a right supernumerary kidney with no other associated anomaly. (see Figs. 1–3)

Case summary

A 30 years female came in the emergency department with abdominal pain. The patient was given emergency treatment and ultrasound abdomen was suggestive of the right Supernumerary Kidney. She further underwent computed tomography with urography phase which was suggestive of Right Kidney measuring 10 × 4.7 cm with renal pelvis facing anteromedially with renal artery arising from anterolateral aspect of aorta at L1-L2 level. Another kidney 7.8 × 4.4 cm fused to upper native kidney having renal pelvis facing anterolateral with renal vessels arising from abdominal aorta at the level of L3. Both Kidneys having separate renal veins joining to form common channel and draining to inferior vena cava. Both kidneys were fused with flimsy tissue with separate pelvicalyceal facing in different directions. Ureters of both kidneys were joined below the pelvicalyceal system of the supernumerary kidney. The patient was kept on follow-up.

Discussion

The right supernumerary kidney is a very rare anomaly. The supernumerary kidney is kidney in addition to two kidneys. It may or may not be fused to the other kidneys. Only a few case reports are in literature.

The supernumerary kidney is the result of the abnormal division of nephrogenic cord into two metanephric blastemas with or without division of ureteric bud. The supernumerary kidney may have partially or completely duplicated ureters.

The main differential diagnosis of the supernumerary kidney is Duplex kidney. The duplex kidney having a separate pelvicalyceal system with single or double ureter. The main difference is supernumerary kidney have separate arterial supply, venous drainage, pelvicalyceal system, and distinct renal capsule. The supernumerary is seen on the left side it is very rare to have a right supernumerary kidney.

Supernumerary ureter usually follows Weigert-Meyer law in most fully-documented cases of double ureters like duplex kidneys.

Intravenous urography, ultrasonography, nuclear scintigraphy (for function), computed tomography, and magnetic resonance imaging are the imaging studies which can delineate the diagnosis of the supernumerary kidney.

The supernumerary kidney may be associated with other anomalies such as ureteral atresia, vaginal atresia, horseshoe kidney, complete duplication of urethra and penis with an ectopic ureteral opening into the vagina or introitus, imperforate anus, ventricular septal defects, meningomyelocele, and coarctation of the aorta.

This anomaly is usually asymptomatic; however, fever, hypertension, Abdominal discomfort or palpable mass may be presenting symptoms. Several pathologic conditions including hydronephrosis, pyelonephritis, pyonephrosis, renal and ureteral calculi, as well as malignant and benign neoplasms might affect renal moieties in patients with the supernumerary kidney. The aforesaid.

Pathologies may occur more frequently when the supernumerary kidney is associated with other renal anomalies, i.e. horseshoe kidney.

Management of these patients depends upon the symptoms of patient and the function of the supernumerary kidney. If Kidney is non-
functional nephrectomy may be advised. In such cases, CT angiography should be done to delineate the anatomy and planning the surgical procedure. In present case-patient was asymptomatic and kidney was having normal function and unobstructed drainage.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.eucr.2019.01.001.

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