

Rare 3 Kidney Anomaly Detected on DMSA Scintigraphy

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1. INTRODUCTION

Diseases specific to childhood age group differ from adults. Scintigraphic methods are frequently used in the diagnosis and follow-up of nephrourological problems of childhood. In this case report, we present a rare case of 3 kidney anomaly findings in a 17-year-old female patient who underwent DMSA scintigraphy with small right kidney.

2. CASE REPORT

DMSA scintigraphy was performed in a 17-year-old female patient who had no previous known disease on the basis of the normal kidney on the radiological examination. She had recurrent urinary tract infection. DMSA scintigraphy was performed for parenchymal injury. In DMSA imaging, right kidney was seen in normal size at normal site. Contour irregularity was observed with parenchymal

damage in the upper pole and in the lateral of the middle site, and hypoactive areas of pelvicalyxial structures in the medial site were observed. Left kidney was observed in normal size and localization. Parenchymal damage was not detected in the left kidney. However, it was noted that there was an activity of the third kidney in the lower pole of the left kidney, which was suspected to have an ectopic and fuzzy appearance near the anterior (Figure). Abdominal US correlation revealed ectopic and fused third kidney findings. On the DMSA scintigraphy, the contribution of the left kidney to the total renal parenchyma function was approximately 83% and the contribution of the right kidney was approximately 17%. The contribution of left upper kidney to total left kidney function was calculated as 62.5%, and the contribution of left lower fused third kidney was 37.5%.

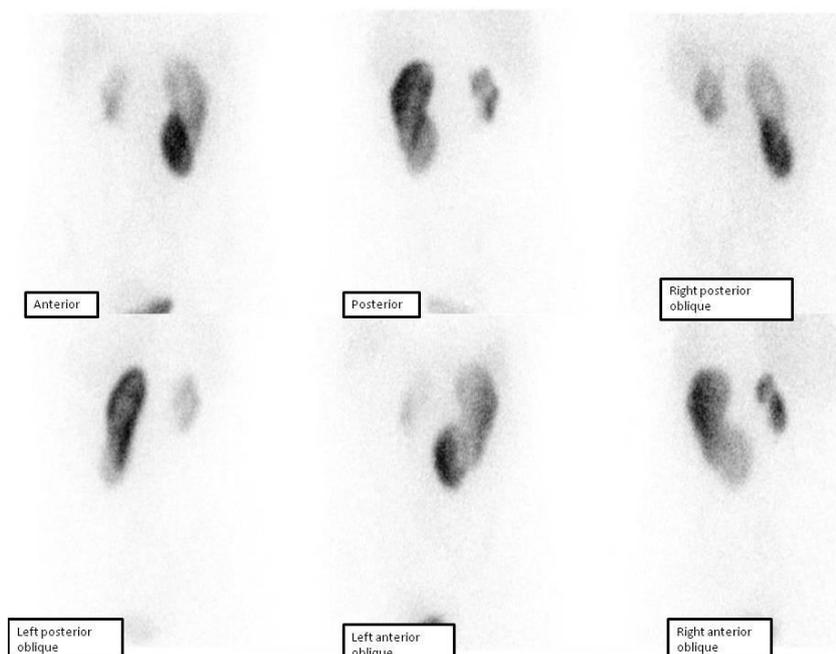


Figure1. DMSA static images of the patient

3. DISCUSSION

Renal anomalies can be grouped into 5 groups as number, volume, shape, structure and localization anomalies. The renal number anomalies can be the absence of two kidneys (bilateral renal agenesis), the absence of a single kidney (unilateral renal agenesis) or multiple kidneys (1-2). Multiple kidney anomalies are very rare and mostly seen as 3 kidneys. Association of a normal kidney with a second or third ipsilateral smaller kidney is an extremely rare anomaly. The first reported case of supernumerary kidney with absent ipsilateral normal kidney, presence of more than 3 kidneys on 1 side, and associated anomaly in the gallbladder was reported by Afrouzian M and co-authors (3). Tc-99m DMSA scintigraphy is a noninvasive examination that can be used frequently in renal anomalies. However, according to our knowledge very rare 3 renal

anomalies have not been reported in the literature on DMSA scintigraphy. In this respect, the presentation of cross-renal ectopic kidney is important for the first case in the literature.

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