THORACIC KIDNEY : A CASE REPORT

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ABSTRACT

Positional anomalies of the kidney are encountered with an increasing frequency in everyday practice but intrathoracic kidney is a rare form of renal ectopy. Although it does not require medical treatment the situation may draw attention in differential diagnosis of abnormal mediastinal mass. We describe a patient with left thoracic kidney.

Key Words: Kidney abnormalities, ectopy, intrathoracic kidney, radionuclide imaging

INTRODUCTION

Intrathoracic kidney or high thoracal ectopy is a rare positional renal anomaly which denotes partial or complete protrusion of the kidney above the diaphragma in the posterior mediastinal space. This situation is different from the congenital or traumatic diaphragmatic hernias in which other abdominal organs exist in the thorax. It has been reported as less than 5% of all renal ectopies with a slight higher incidence on the left side (1,5: 1) and in the males (3:1) (1,2). The reported cases in the literature covers all age groups, ranging from the neonatal period to the elder ages (3-5). We describe a patient diagnosed fortuitously after unrelated complaints.

CASE REPORT

A 53 year old male patient complained of pyrosis and a dull ache in his epigastrium for 2 years. On his clinical work-up, an X-ray of the chest demonstrated a mass along the left border of heart with a slight elevation of left hemidiaphragma. The left kidney could not be visualized on abdominal sonography and a renal scintigraphy was performed thereafter. It was reported improperly as a non-functioning left kidney with the high thoracal left kidney interpreted as the spleen (Fig. 1) whereas an excretory urography demonstrated the anomaly (Fig. 2). To clarify the diagnosis and search for other anomalies, further investigation by CT of the thorax and abdomen confirmed the position of the left kidney without any other pathology. Cardiologic consultation, pulmonary function tests and radiologic investigation of the gastrointestinal system did not yield pathologic finding. As the patient had no urinary symptoms, he was informed of the anomaly and discarged without medical or surgical intervention.

DISCUSSION

By the end of the 8th week of gestation, the kidney completes its ascent and reaches the final location. Intrathoracic kidney is believed to be the result of either accelerated ascent of the kidney or the delayed closure of the diaphragmatic leaflets (6). Through the foramen of Bochdalek in the posterolateral aspect of diaphragma the kidney protrudes into the posterior mediastinum; thus, the kidney is not within the pleural cavity. The ureter and vessels of the kidney also enter through the same foramen with normal site of origin for the renal artery (7). The only pathology for the ureter is that it is elongated but has a normal orifice; however, anomalies, like duplication of pelvis and ureter or renal cyst have been reported (5, 8). In most of the cases the adrenal gland is in its normal position, therefore below the kidney. Our case had no associated anomaly.

Until 1940 this entity could be reported following autopsies whereas advanced technology affords prompt diagnosis by imaging modalities including radionuclide scintigraphy. The case we present was suspected as a positional anomaly after a misinterpreted renal scintigraphic evaluation and a simple excretory urography confirmed the diagnosis. Detailed work-up for other anomalies did not demonstrate any other pathologies and as it is an invasive procedure and the diagnostic tools we employed were enough for the diagnosis, we did not

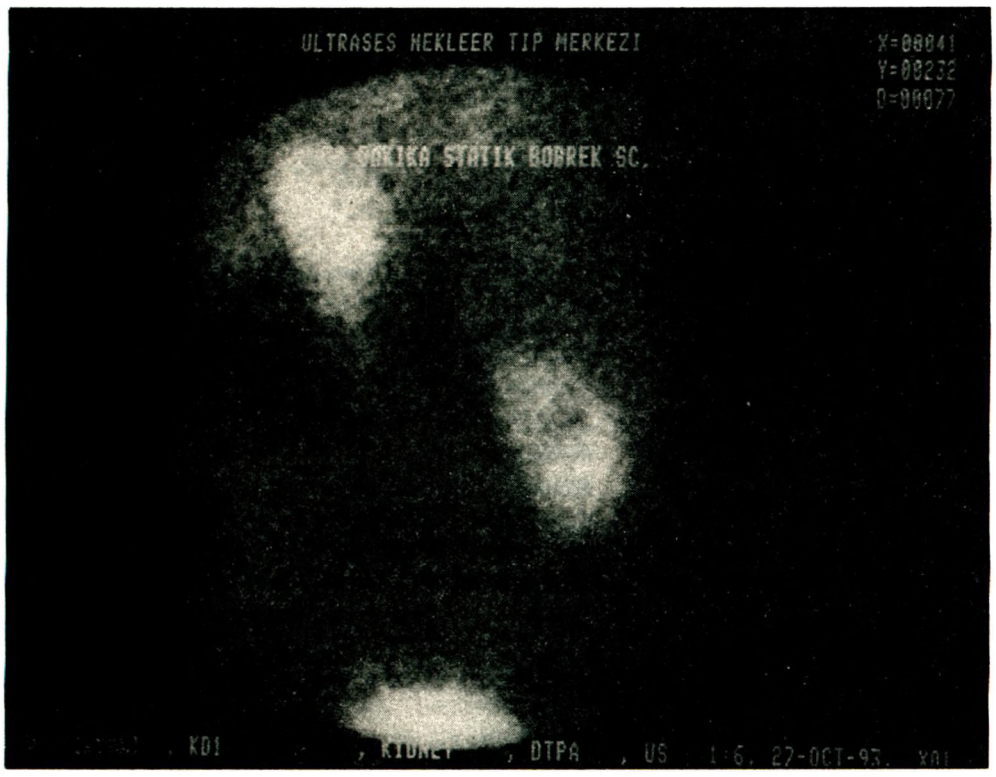

Fig. 1: *Renal scintigraphy showing left kidney misinterpreted as spleen*

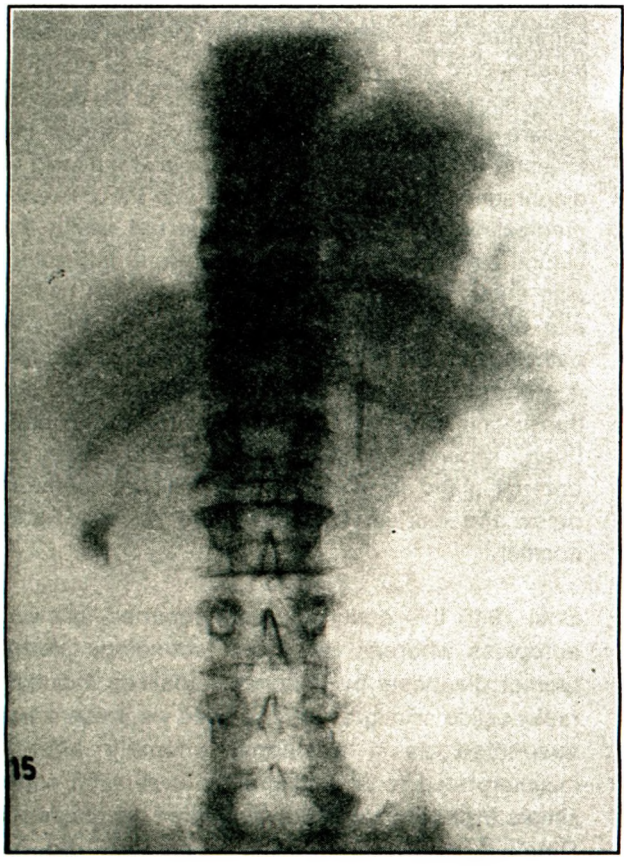

Fig. 2: *IVP of the case demonstrating the high thoracal left kidney*

perform a selective renal angiography. Because the patient had no urinary symptoms, detailed urologic invasive procedures were excluded. Thoracic kidney is usually an incidental diagnosis which does not necessitate treatment unless there is additional pathology due to the positional anomaly of the kidney. It should be considered in evaluating patients when renal ectopy is suspected and in cases presenting with a mediastinal mass.

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