Case Report

Renal Cell Carcinoma in Presacral Pelvic Kidney

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Abstract

Renal pelvic ectopia has been estimated to occur in 1 of 2100 to 3000 autopsies. Renal cell carcinoma (RCC) is a very rare phenomenon in an ectopic kidney.

According to our review of literature, there are only seven reports of RCC occurrence in pelvic kidneys. We describe a patient with RCC of presacral ectopic kidney who underwent radical nephrectomy at our medical center.

Introduction

Pelvic ectopia has been estimated to occur in 1 of 2100 to 3000 autopsies.[1] Most ectopic kidneys are clinically asymptomatic and they are no more susceptible to disease than the normally positioned kidney, except for the development of hydronephrosis or urinary calculus formation.[2] The abnormal position of ectopic kidneys may result in a pattern of direct and referred pain that is atypical for colic and may be misdiagnosed as acute appendicitis or as pelvic organ inflammatory disease in female patients. Other signs and symptoms of ectopic kidneys include: incontinence, palpable abdominal mass, urinary tract infection, renovascular hypertension secondary to anomalous blood supply and dystocia from a pelvic kidney.[2] Renal cell carcinoma (RCC) is a very rare phenomenon in an ectopic kidney. Since RCC is the most common malignant renal tumour in the adult and renal ectopy is relatively common, more cases of this association would be expected.

There are only seven reports of RCC occurrence in pelvic kidney in the literature.[3-8] Herein we describe a patient with RCC of presacral pelvic kidney who underwent radical nephrectomy at our medical center.

Case Report

A 53-year old female presented with chronic, dull abdominal pain. Routine laboratory tests including complete blood count, renal function tests and urine analysis were all within normal limits.

In ultrasound study, left kidney was in its proper place and there was a hypoechoic mass with greatest diameter about 70mm in pelvic cavity.

Abdominopelvic CT scan revealed a malrotated right kidney (Fig-A) and a hypervascular, hypodense mass in front of the sacrum at the level of (s1-s2), representing a tumoral left pelvic kidney (Fig-B,C). We couldn't perform further evaluation with MRA, because the patient had a pace maker and she refused undergoing angiography. She underwent radical nephrectomy through a lower midline incision in supine position. Two renal arteries and one vein were identified. Renal arteries both originated from left internal iliac artery. Operational time was 70 minutes and estimated blood loss was 300 cc at the time of surgery. A closed suction drain and a Foley catheter were inserted. The patient was ambulated and started regular diet the day after surgery. The Foley catheter on the first postoperative day and the drain on the second postoperative day were removed. The patient was discharged on the third day following the surgery. We did not have any complications

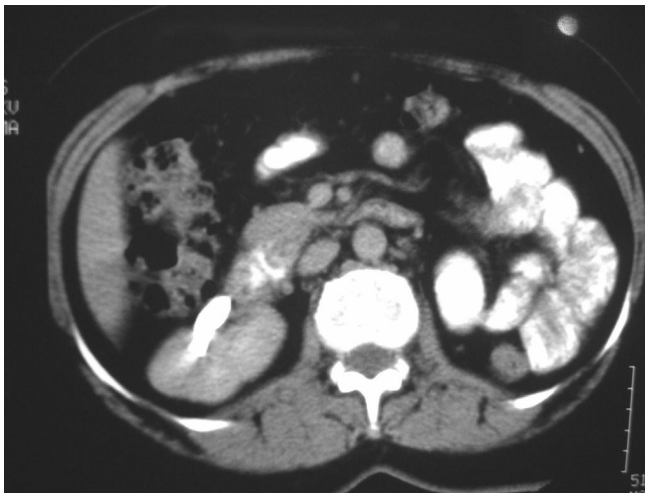

Fig A: Abdominopelvic CT scan showing a malrotated right kidney and left kidney is not seen in left upper quadrant.

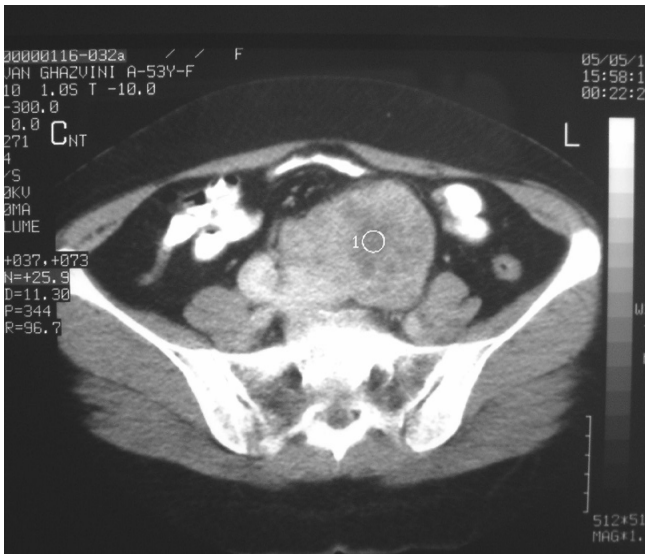

Fig B: A hyper vascular hypo dense presacral mass representing left tumoral pelvic kidney.

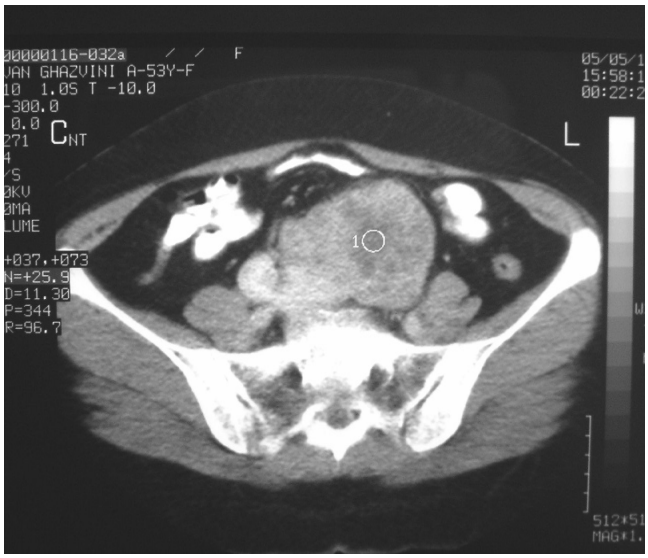

Fig C: A narrow rim of left kidney adjacent to tumoral part.

during and in the early postoperative days.

The histological examination revealed a renal cell carcinoma, clear cell type, pT1NxMxGII. One year later, the patient underwent follow up physical examination and metastatic work up and no delayed complications had occurred.

Discussion

RCC of pelvic kidney is a very rare entity. To our knowledge, only seven cases are reported till now. The surgical approach to ectopic kidneys merits caution because of the uncertain vascular anatomy and it is mandatory to have a detailed preoperative vascular evaluation. In some studies MRA has suggested to be a substitute for angiography in depicting the renal vessels before nephrectomy.[4] As mentioned before, we could not perform any vascular studies before the surgery but fortunately we did not encounter any major problems during the operation. We just want to report the case due to its rarity. If performing MRA or angiography is not feasible, careful investigation and exploration is needed during surgery in order to avoid vascular injury.

Conclusion

In order not to encounter any unpredictable event at the time of the surgery, it is advisable to have a detailed preoperative vascular evaluation of an ectopic kidney. Otherwise, careful investigation is needed to prevent vascular injuries.

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