Case report

Renal cell carcinoma of a horseshoe kidney mistaken for ovarian malignancy

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Background: Heterogonous complex mass suspected to be ovarian tumour preoperatively in the vicinity of both low lying kidneys in close approximation to enlarged lymph node by trans abdominal ultrasound was found to be renal cell carcinoma arising from horseshoe kidney.

Case report: A rare presentation, is described herewith in a multiparous (P_6), 57 year old post menopausal lady who suffered from pyrexia for 2 months and mass abdomen for 3 years.

Key words: horseshoe kidney, ovarian tumor, renal cell carcinoma.

Introduction

Many a time's ovarian tumors are mistaken for other pathological conditions, namely ectopic pelvic kidney, with hydronephrotic manifestation have resembled to an ovarian cyst and a renal leiomyoma has presented as a twisted ovarian cyst.[1]

Conversely an ovarian cystadenoma occupying subphrenic location at an ectopic site have resulted in downward displacement of Kidney.[2] While abnormally lying horseshoe kidney, described in conjunction with the asymmetrical fusion disorder at times have developed cystadenoma.[3] Rarely renal cell carcinoma has affected both of horseshoe kidneys like the case described below which was confused with ovarian tumor either.[4-6]

Case

A 57 years old lady P_6 with 3 live issues from Pindikhola Syanjha was referred with lump abdomen for 3 years and significant weight loss during this period with high grade fever with chills and rigour for 2 months. A preliminary ultrasonic (USG) finding of a large complex abdominal mass with heterogeneous echo texture, measuring 8 x 2x 6.5x 6.7 suggestive of an ovarian tumor with central necrosis was made in the presence of enlarged lymph node measuring 5x3 cms. She looked pale (hemoglobin 8.3 gm %) with bilaterally palpable axillary nodes which were discrete, mobile, firm and non tender. A vague mass was noted mainly in the left side of the abdomen and was thought to be ovarian in nature, since the uterus was reported to be normal by transvaginal ultrasound. A repeat scan reported this vague 5.9x 6.7x 71 cms mass to be dermoid cyst showed mass; with both low lying kidneys; right kidney 6.7x3 cms; left kidney 6.1x2.7.

Investigations directed towards depiction for the cause of fever by urine culture, widal test, malarial antigen, AFB result and marrow study were all normal to the extent that, even the lymph node biopsy showed reactive adenitis with no evidence of malignancy. She was kept on antitubercular treatments though the (Mantoux was non reactive) in view of evening rise of fever which went as high up to 105 degree centigrade. But this treatment was soon stopped as there was no symptomatic improvement and non subsidence of fever. After correction of anemia with transfusion of with B positive blood laparotmoy was done keeping the provisional diagnosis of ovarian tumor /with pelvic abscess. But we were confronted by a central mass 10x12 cms with the ureters running at the lateral boarder *(Fig 1, 2)* which were held by ureteric tape, both the ovaries surprisingly being normal, so was the uterus. This tumor was debulked and the bed of the tumor was cleaned and washed, the edges being sutured maintaining the hemostasis and abdominal closure acquired after keeping the drain and placing a postoperative diagnosis of horse shoe kidney. Blood loss was about 100 cc and there was no hematuria.

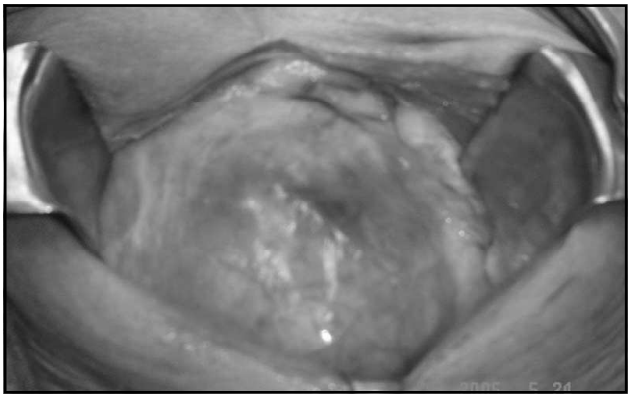

Fig 1. central abdominal mass, the identity of horse shoe is lost on account of development of malignancy(renal carcinoma)

Fig 2. Horse shoe kidney mistaken ovarian cyst. Note that the ureters are held by ureteric tape.

Histopathology of this specimen reported this to be renal papillary cell carcinoma type I with nuclear Grdae II, with the disease at T4 N2 Mx.

Repeat scan done after 2 weeks of surgery showed a low lying left kidney connected to the ectopic kidney on right with a huge lobulated heterogenous mass outlined along with enlarged paracaval and paraaortic nodes. Reluctant to undergo repeat surgery she was discharged after 26 days.

Discussion

Any malignancies could present with weight loss, non resolving high pyrexia, anemia and lymphnode enlargement which in this case was diverted to tubercular adenitis of palpable axillary lymph node and ovarian abscess with the clinical findings of hypogastric lump, since this being an unusual case. Also despite the series of tests that this patient underwent through, the right diagnosis could not be reached preoperatively such that a clinical therapy with antitubercular drugs had to be advocated for number of days since there was no hematuria, pyuria and abnormal renal function test that could have been one of the presentations.

Possibly MRI not done here, could have provided better diagnosis. [4]

There are survivals from this condition with nephrectomy in early stage diseases facilitated by preoperative renal arterial embolization.[5]

It's evident from this case that there is an unusual tendency to deny laparotomy unnecessarily in pretence of fever which in this case was (an expression of malignancy) was delayed by 2 weeks. A laparotomy at the outset without dilley dally could have been an appropriate approach for a mass presenting as non resolving pyrexia. This case also teaches us that all pelvic mass, not necessarily is an ovarian mass which in this context could be a low lying kidney too and when ever such mass is associated with high fever it could be a representation of malignancy and not always necessarily be an abscess.

Conclusion

Differential diagnosis of ovarian tumour presenting as lump in abdomen could be an ectopic horseshoe kidney and in conjunction with weight loss, anemia and long standing non resolving pyrexia one could possibly think of worst possible consequences which could be malignancy; a renal cell carcinoma in the horseshoe kidney.

References:

1. Kyriakidis A, Economacos G, Tsatsaris N, Kostacopoulos A.Renal leiomyoma. A case thought to be torsion of an ovarian tumour. J Urol (Paris) 1980; **86(2):**119-21.
2. Kawano S, Ueda S. Downward displacement of the left kidney caused by ectopic ovarian cyst developing in the subphrenic region. J Urol 1976 ; **116(2):** 248-50.
3. Pryma DA, Akhurst T. Hydronephrotic ectopic pelvic kidney simulates sacral metastasis from breast cancer. Clin Nucl Med 2005; **30(4):** 244-5.
4. Schubert RA, Soldner J, Steiner T, Schubert J, Kaiser WA. Bilateral renal cell carcinoma in a horseshoe kidney: preoperative assessment with MRI and digital subtraction angiography. Eur Radiol. 1998; **8(9):**1694-7.
5. Fazio L, Razvi H, Chin JL. Malignancy in horseshoe kidneys: review and discussion of surgical implications. Can J Urol. 2003; **10(3):**1899-904.
6. Otero-Garcia JM, Maldonado-Alcaraz E, Lopez-Samano VA. A case of renal cell carcinoma in horseshoe kidney. Gac Med Mex. 2005; **141(4):** 305-7.