RENAL CELL CARCINOMA IN A HORSESHOE KIDNEY

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Summary.- **OBJECTIVE:** We report a clinical case of renal carcinoma in horseshoe kidney and some anatomical particularities during surgery.

METHODS: We describe the case of a 54 year old man who presented pain and prostatism. A renal tumor in horseshoe kidney was found in the diagnostic tests.

RESULTS: We performed surgical treatment saving the left kidney.

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Accepted for publication: July 3rd, 2008.

CONCLUSIONS: Horseshoe kidney is the most frequent fusion abnormality of the kidney. Renal carcinoma in this type of renal fusion is similar to those with normal anatomy. Anatomical particularities should be taken into account during surgery.

Keywords: Horseshoes kidney. Renal carcinoma.

Resumen.- OBJETIVO: Aportar un caso de hipernefoma en un riñón en herradura y valorar el tratamiento revisando la literatura.

MÉTODOS: Describimos el caso de un varón de 54 años que presentó dolor testicular y prostatismo, siendo diagnosticado en el estudio urológico de hipernefoma en riñón en herradura.

RESULTADOS: Se realizó tratamiento quirúrgico conservándose el riñón izquierdo.

CONCLUSIONES: El riñón en herradura es la más frecuente de las anomalías de fusión. El carcinoma renal en este tipo de riñones es similar a los riñones de anatomía normal. Sin embargo las particularidades anatómicas deben tenerse en cuenta en la cirugía.

Palabras clave: Riñón en herradura. Carcinoma renal.

INTRODUCTION

Horseshoe kidney occurs 1 to 400 borns with a frequency 2 to 1 in male(1). It's the most frequent fusion abnormality of the kidney associated with aquired pathology like lithiasis, infection and hydronephrosis secondary to urinary obstruction (1,3), but 33% are asymptomatics. The incidence of renal carcinoma in these abnormal kidneys

is similar to those with normal anatomy (1) and 85% are adenocarcinomas.

The surgical treatment is difficult about the isthmus anatomy and the vascular malformations. Us more isthmus parenchyma more difficult surgery, risk of kidney infarct and postoperative fistula.

CASE REPORT

A 54 years old man without known diseases was referred to consultation with left orchialgia and trivial prostatism. The abdomen exploration was normal. There were no megalias. External genitalia were normal, with left testicular pain. Transrectal exploration was normal too. The abdominal ultrasound detect a tumour situated in right kidney. The computerized tomography shows a 8 cm tumour and the isthmus between left and right kidney. Tumour horseshoe kidney diagnosis was done.

Surgical transabdominal treatment right radical nephrectomy by anterior intercostal incision was performed. Arteries of the isthmus were ligated and divided. It was difficult surgery about three renal veins and two renal arteries. Pathological evaluation demonstrate Fuhrman grade II renal cell carcinoma. PT2N0MX. Two years after surgery no signs of recurrent disease have been detected.

DISCUSSION

Carcinoma originating in a horseshoe kidney is rare. Numerous vascular anomalies have been reported difficulting surgical treatment that must be us conservative us possible.

The isthmus is more frequently inferior, and should have important parenchyma volume under inferior mesentery arteria and anterior to big vassels (1). The difficulty in surgical treatment of these tumours is the bilateral affec-

FIGURE 1. Renal tumour superior extremity of right kidney.

FIGURE 2. Fibrotic isthmus of kidney under aorta and inferior extremity of right kidney, anterior to cava vein.

tation of the kidney, no in our patient, the unexpected vascular anatomy in this malformation and the tumour size and localization and the anatomical relations with the big vasa. Vena cava extension (4) of such a tumour and the possibility of abdominal aortic aneurysm (5), more frequent in these patients, do necessary preoperative imaging studies like angiography. Ultrasonography is useful like screening technique but urography, arteriography and tridimensional reconstructive computerized tomography (6,7) offer us unexpected vascular anatomy images for preventing surgical complications. We must choose surgical route in order to avoid complications. The lumbotomy permits an easy removal of the kidney with less infection and bowel complications (3). Transabdominal route is recommended because provides the best access at the isthmus and vascular plane (1,2,6). We must perform conservative surgery in all cases as possible. The accurate surgery and diagnosis of unexpected vascular anatomy offers to the patient the best functional and medical prognosis.

CONCLUSIONS

Horseshoe kidney's anatomical particularities must be taken account during surgery, because difficult the treatment and must be diagnosed before surgery. We must use all our technology with angiography and computerized tomography to report all vascular anomalies in this renal malignancy malformation.

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