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ORIGINAL ARTICLE

Experience in nephron-sparing surgery in patients with small renal tumours☆

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KEYWORDS
Small nephron-sparing surgery;
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Abstract
Background: Nephron-sparing surgery is currently the treatment of choice for surgical removal of solid renal tumours smaller than 7 cm, in the case of a solitary kidney, bilateral renal tumours or the presence of chronic renal failure.
Material and methods: An observational, descriptive, retrospective and cross-sectional study was conducted. The variables evaluated were: age at diagnosis, gender, intraoperative blood loss, operative time, preoperative tumour size, hospital stay, pathology report, pTNM classification, Fuhrman nuclear grade, pre- and post-operative creatinine, monitoring for cancer. All were analysed using SPSS v 22.
Results: The study included 28 patients, 14 male and 14 women, with a mean age 52.3 years. The approach was lumbotomy in all patients. The mean hospital stay was 4.1 days. Mean perioperative bleeding loss was 380.3 ml. The mean preoperative creatinine was 0.96 mg/dl, with a post-operative mean of 1.12 mg/dl. Histopathology reported, 23 clear cell tumours, 2 angiomyolipomas, 2 oncocytomas, and 1 haemorrhagic cyst. Tumour staging was performed on 14 patients, with 13 patients T1bN0M0, and 1 patient T2aN0M0. In clear cell tumours, Fuhrman nuclear grade 2 was present in 16 patients and 7 patients were Fuhrman grade 3.

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Conclusion: Nephron sparing surgery is the choice procedure of choice in patients with small renal tumours, with good functional results without significant alteration in renal function. Outcome is optimal, with a low incidence of complications.

PALABRAS CLAVE
Cirugía preservadora de nefronas;
Renal;
Tumour

Experiencia en cirugía preservadora de nefronas en pacientes con tumores renales pequeños

Resumen
Antecedentes: La nefrectomía radical es considerada el estándar de oro para el tratamiento de tumores renales. Sin embargo, la cirugía preservadora de nefronas es una opción quirúrgica en pacientes con tumores renales menores de 7 cm, con riñón único, tumores renales bilaterales o con insuficiencia renal crónica.
Objetivo: Describimos la experiencia en cirugía preservadora de nefronas en pacientes con tumores renales pequeños (<7 cm).
Material y métodos: Estudio observacional, descriptivo, retrolectivo y transversal. Variables estudiadas: edad al diagnóstico, género, sangrado transoperatorio, tiempo quirúrgico, tamaño tumoral prequirúrgico, estancia intrahospitalaria, resultado histopatológico, clasificación pTNM, grado nuclear de Furhman, creatinina antes y después de la cirugía, seguimiento oncológico. Análisis estadístico con programa SPSS v22.
Resultados: Se incluyeron 28 pacientes, 14 hombres y 14 mujeres. Edad promedio 52.3 años, el abordaje fue lumbotomía en todos los pacientes. Promedio de 4.1 días de estancia intrahospitalaria. Promedio de sangrado transoperatorio de 380.3 ml. La creatinina en promedio: antes de cirugía 0.96 mg/dl, y después de 1.12 mg/dl. Resultado de histopatología: 23 tumores de células claras, 2 angiomiolipomas, 2 oncocitomas y 1 quiste hemorrágico. 14 pacientes se presentaron en etapa T1aN0M0, 13 pacientes T1bN0M0, 1 paciente T2aN0M0.
En los tumores de células claras, el grado nuclear Furhman 2 se presentó en 16 pacientes y Furhman 3 en 7.
Conclusión: La cirugía preservadora de nefronas es el procedimiento de elección en pacientes con tumores renales pequeños, por buenos resultados funcionales (sin alteración significativa en la función renal), con adecuado control oncológico, con mínima incidencia de complicaciones.

Background

Kidney tumours represent approximately 2–3% of all solid neoplasias. Each year 8.9 new cases every 100,000 are diagnosed and over 11,000 deaths are reported. Its incidence has increased from 2 to 4% due to the use of imaging techniques. It is more common in men by a 3:2 ratio; the mean age at the time of diagnosis is 65 years.[1]

As for renal cell carcinomas, it is believed that they mainly arise from proximal tubule cells, and this is probably correct for clear cell and variants of papillary ones. However, other histological subtypes of renal cell carcinomas, such as chromophobe and collecting duct ones, derive from more distal components of the nephron.[2]

Tobacco consumption is the most accepted risk factor for renal cell carcinoma, and causes between 20 and 30% kidney carcinoma cases in men and 10–20% in women; regardless of the type of exposure, it has been shown that the risk increases with the accumulated dose and the relative risk is directly linked to the length of time the patient has had this habit. Other risk factors in order of importance are: obesity, high blood pressure, and in a lower proportion, it is associated with urban and industrial settings and with exposure to industrial solvents (trichloroethylene), as well as with products from the footwear and fur industries, asbestos, cadmium, petroleum and gasoline. A family history of renal carcinoma is a non-modifiable risk factor (2–5%),[2] mainly for multifocal or bilateral cases.

The probability of having mutations in geneVHL for sporadic tumours is 69%, and in another 20% there is hypermethylation of this gene. Von Hippel–Lindau syndrome is associated with a 50% incidence of renal cell carcinoma, and also to multiple and bilateral tumours by 80%.[3]

More than 30% of the kidney tumours are asymptomatic and are diagnosed during the end stage; in 50% of the cases diagnosis is incidental when performing abdominal imaging studies for another disease. In asymptomatic patients, the manifestations are variable and can be unspecific. It should