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ORIGINAL ARTICLE

Postsurgical complications in patients with renal tumors with venous thrombosis treated with surgery☆

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KEYWORDS
Renal tumor;
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Abstract

Background and objective: Surgery on renal tumors with venous tumor thrombus presents a high complication rate and non-negligible perioperative mortality. Our objective was to analyze the postoperative complications, their relationship with the level of the tumor thrombus and its potential predisposing factors.

Materials and methods: A retrospective analysis was conducted in 101 patients with renal and venous tumor thrombus operated on between 1988 and 2017. Two patients were excluded because of intraoperative pulmonary thromboembolism and exitus (2%). The postsurgical complications were classified according to Clavien–Dindo classification system.

To compare the qualitative variables, we employed the chi-squared test. We performed a multivariate analysis using binary logistic regression to identify the independent predictors.

Results: Some type of postsurgical complication occurred in 34 (34.3%) patients, 11 (11.1%) of which were severe (Clavien III–V). There were significant differences in the total complications ($p = 0.003$) and severe complications (Clavien $\geq$ III; $p = 0.03$) depending on the level of the tumor thrombus.

PALABRAS CLAVE
Tumor renal;
Trombosis venosa;
Complicaciones posquirúrgicas

Complicaciones posquirúrgicas en los pacientes con tumor renal con trombosis venosa tratados con cirugía

Resumen

Introducción y objetivo: La cirugía de los tumores renales con trombosis venosa está gravada con un porcentaje elevado de complicaciones y con una mortalidad perioperatoria no despreciable. Nuestro objetivo es analizar las complicaciones postoperatorias, su relación con el nivel del trombo y sus posibles factores favorecedores.

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Materiales y métodos: Análisis retrospectivo de 101 pacientes con tumores renales con trombosis venosa intervenidos entre 1988 y 2017. Se descartaron 2 pacientes por TEP intraoperatorio y exitus (2%). Las complicaciones posquirúrgicas se clasificaron según Clavien-Dindo.

Para el contraste de variables cualitativas se ha utilizado el test de la Chi cuadrado. Se realizó un análisis multivariante mediante regresión logística binaria para identificar las variables predictoras independientes.

Resultados: En 34 (34,3%) pacientes se produjo algún tipo de complicación posquirúrgica, siendo en 11 (11,1%) graves (Clavien III-IV). Existen diferencias significativas en las complicaciones totales ($p = 0{,}003$) y las graves (Clavien $\geq$ III) ($p = 0{,}03$) según el nivel del trombo tumoral.

Introduction

Radical nephrectomy in patients with tumors has an overall complication rate ranging between 19 and 30%, between 1.1 and 2.8% of serious complications (Clavien–Dindo $\geq$ III) and a mortality of 0–0.38%.[1] In contrast, surgery for renal tumors with venous thrombosis (RTVT) is subject to a high percentage of complications that increase depending on the level of the tumor thrombus: level I – 12.5%; II – 18%; III – 26%, and IV – 47% and, with a perioperative mortality ranging from 0.8% for level I to 40% for level IV.[2]

On the occasion of the recent appointment (Interterritorial Council of the National Health System of 21/6/2017) of our Center as CSUR (Center, Service and Reference Units) for kidney tumors with venous involvement, we want to communicate our experience in this condition so infrequent.

The objective of this study is to evaluate postoperative complications, their relationship with thrombus level, and the possible factors favoring patients with RTVT treated with surgery.

Material and methods

We performed a retrospective analysis of 101 patients with RTVT operated between 1988 and April 2017, following the recommendations of the EAU clinical guidelines panel.[3] The data was extracted from the review of the stories by the second author and the collaboration of the Resident Medical Interns. The level of the tumor thrombus was staged according to the classification of Novick[4] (Fig. 1). The anesthetic risk was defined according to the classification system of the American Society of Anesthesiologists (ASA). The postoperative complications were grouped according to the Clavien–Dindo classification.[5] The patients were reclassified according to the TNM classification of the UICC (7th edition) of the year 2009.[6] The complications occurred were collected within 60 days after surgery.

Surgery in patients with thrombus in levels I and II was performed exclusively by urologists. In level III, it was carried out with hepatic surgeons (hepatic mobilization) and in level IV with cardiac surgeons. Since 2005, laparoscopic

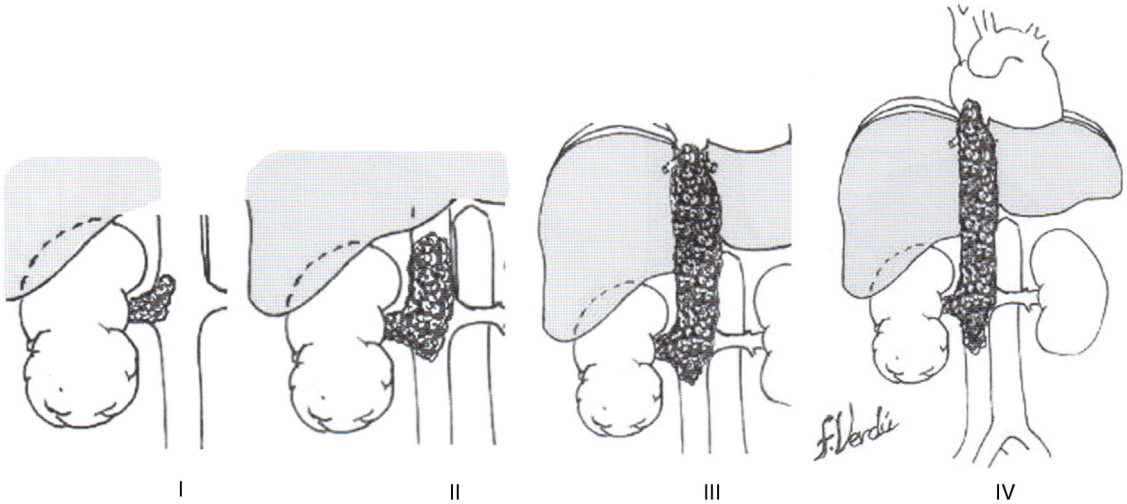

Figure 1 Levels of tumor thrombus involvement in cava. Neves R.J., Zincke H. 1987.
Source: Martínez Salamanca, JI; Herranz, F; Verdú, F; Pedemonte, G; Moralejo, M; Cabello, R, et al. Surgical treatment of renal adenocarcinoma with venous thrombus. Arch. Esp. Urol. 58, 4 (295–304), 2005.