CLINICAL CASE

Infected complex renal cyst: laparoscopic management


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Abstract Renal cyst incidence ranges from 27% in patients 40 years of age to 61% in patients 80 years of age. Risk factors are aging, male sex, high blood pressure, and renal insufficiency. The Bosniak classification is the most widely used method for characterizing renal cyst lesions. We present herein the case of a 27-year-old woman that was admitted to the emergency department for left pyelonephritis whose medical management was difficult. A computed tomography scan identified multiple hypodense images at the left kidney related to complex cysts, irregular 5 mm-thick contours, thin indistinct septa: Bosniak IIF. Laparoscopic left radical nephrectomy was performed. Surgery duration was 170 min, intraoperative blood loss was 300 mL, and the surgical specimen was extracted through a Pfannenstiel incision. The patient showed postoperative clinical improvement and was released from the hospital 48 h after surgery. The histopathologic study reported simple cysts limited by a fibrous wall and lined with simple cuboidal epithelium. In relation to this case, laparoscopic treatment was effective in eliminating the infectious focus and the complex cyst, under the premise of improving convalescence with no esthetic compromise.

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PALABRAS CLAVES
Seguridad clínica; Diálisis; Encuesta; Promoción de la salud

Quiste renal complejo infectado: manejo laparoscópico

Resumen La incidencia del quiste renal es del 27% a los 40 años de edad; a los 80 años se incrementa a un 61%. Los factores de riesgo son: aumento de edad, género masculino, hipertensión e insuficiencia renal. La clasificación de Bosniak es el método más utilizado para caracterizar lesiones renales quísticas. Presentamos el caso de de una mujer de 27 años de edad, quien ingresa a urgencias por presentar pielonefritis izquierda de difícil manejo médico. La tomografía computarizada evidenció riñón izquierdo con múltiples imágenes hipodensas en relación...
Infected complex renal cyst: Laparoscopic management

con quistes complejos, contornos irregulares de 5mm de espesor, y septos finos poco definidos: Bosniak IIF. Se realizó nefrectomía radical izquierda laparoscópica. Tiempo quirúrgico 170 min, sangrado transquirúrgico 300 mL, pieza quirúrgica extraída por incisión Pfannenstiel. Mejoría clínica posterior a la cirugía por lo que se egresó a las 48 h de operada. Resultado histopatológico: quistes simples, limitados por pared fibrosa revestidos por epitelio cúbico simple. En este caso el tratamiento laparoscópico fue eficaz en eliminar el foco infeccioso y el quiste complejo con la premisa de mejorar la convalecencia sin compromiso estético.

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Introduction

Renal cysts continue to be the most common benign kidney lesions, representing more than 70% of renal masses. They can be solitary or multiple and unilateral or bilateral. There is a 27% incidence of renal cyst in patients 40 years of age, which increases to 61% in patients 80 years old. The risk factors are: aging, male sex, high blood pressure, and renal insufficiency. The Bosniak classification is the most widely used method for characterizing renal cyst lesions and evaluating the probability of the presence of a concomitant tumor inside the cyst. Class I and II renal cysts are benign lesions that do not require any therapy, whereas class IIF renal cysts require imaging follow-up. Surgery is recommended in cases of Bosniak class III and IV due to the greater risk for malignancy associated with them. Unfortunately, imaging studies are not always diagnostic and surgical extirpation may be necessary for confirming the diagnosis.

Case presentation

A 27-year-old woman had a history of high blood pressure of 6-year progression treated with 50 mg of losartan per day with good control. She was admitted into the emergency department presenting with fever, dysuria, and a urinary tract infection of one-month progression that had been treated in the private medical sector. Physical examination revealed obesity and there was pain upon deep palpation of the left hypochondrium. Noncontrast and contrast abdominopelvic computed tomography scans reported: normal right kidney, left kidney with multiple hypodense images in relation to complex cysts, one measuring 5.5 x 6.2 cm was observed in the upper pole with a density corresponding to blood or pus, irregular 5 mm-thick contours and thin indistinct septa: Bosniak IIF; the parenchyma thickness was normal and homogeneous with contrast medium up to 30 HU (fig. 1). The clinical laboratory work-up reported: non-pathologic urinalysis, blood chemistry with glucose of 103 mg/dL, urea 21 mg/dL, BUN 10 mg/dL, and creatinine 0.49 mg/dL; complete blood count: hemoglobin of 16 g/dL, hematocrit 33.8%, platelets 504,000, leukocytes 16,000/μL, and neutrophils 85.2%; urine culture was negative. A laparoscopic left radical nephrectomy was performed. Surgery duration was 170 min, intraoperative blood loss was 300 mL, and the surgical specimen was extracted through a Pfannenstiel incision with no incidents. The cyst secretion culture was positive for Escherichia coli and sensitive to meropenem and ertapenem. The histopathologic result was simple cysts (fig. 2) limited by a fibrous wall and lined with simple cuboidal epithelium. The patient showed postoperative clinical improvement and was released 48 h after surgery; total hospital stay was 9 days.

Discussion

Category IIF renal cysts are generally benign and medical/radiographic control management is standard. Renal cysts can grow in both number and size with time, but the majority remain clinically insignificant and do not require treatment. Very few patients experience symptom progression. The complications related to these cysts are: back and abdominal pain (47%), urinary tract infection (41%), urolithiasis (34%), high blood pressure (69%), palpable mass (15%), gross hematuria (31%), and renal insufficiency (47%). The majority of patients that see a urologist for renal cyst treatment do so for relief from symptoms caused by the large size of the cysts. In the majority of these patients, the cysts have grown to a size in which they cause obstruction of the renal collecting system, adjacent organ compression, or both. Our patient presented with a Bosniak IIF renal cyst, sepsis, difficult medical management, and persistent fever and pain and therefore the decision was made to perform laparoscopic radical nephrectomy.
Results

Laparoscopic treatment was effective in eliminating the infectious focus and the complex cyst with the premise of improved convalescence and no esthetic compromise.

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Conflict of interest

The authors declare that there is no conflict of interest.

References