

CHOLESTEATOMA OF THE UPPER URINARY TRACT

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ABSTRACT

We report the case of a 57-year old patient with complex cystic image in right kidney. Following radical nephrectomy, the pathological study established the diagnosis of renal cholesteatoma. We discuss the frequency, pathogenesis, clinical presentation, propedeutics, histological findings and proposes for intervention observed in the literature.

Key words: kidney; cholesteatoma; cyst; disease, urinary tract
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INTRODUCTION

Cholesteatoma (leukoplakia) of the upper urinary tract is a rare benign condition, with approximately 80 cases being described in the literature (1). The characteristic histopathological finding is squamous metaplasia of the urothelium associated with exuberant keratinization and desquamation of keratinized layers. The urinary elimination of horny material can lead to intermittent obstruction of the collector system and flank pain, which are the main clinical manifestations of the disease. Classically, the condition is treated by nephrectomy, though recently its malignant and recurrence potential has been questioned, warranting conservative approaches.

CASE REPORT

Male, 57-year old patient, previously healthy, reported infrequent episodes of right lumbar colic for approximately 6 months. The physical examination did not present significant alterations, as well as the exam of urinary sediment and urine culture. The ultrasound showed a pyelocaliceal cyst in right kidney,

with calcification on its inferior wall. On the computerized tomography (Figure-1), the cyst showed to be hypodense, with heterogeneous content, septate, with captation of contrast medium and calcification in its wall (Bosniak III). Considering the finding of complex renal cyst, right radical nephrectomy was

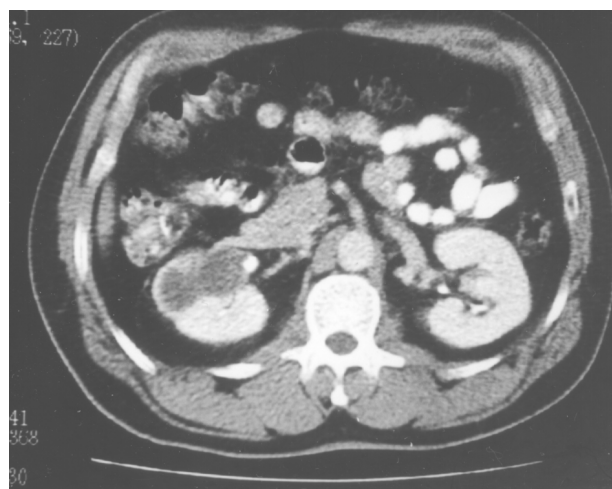


Figure 1 – Abdominal computerized tomography, showing hypodense image in right kidney, with inner calcification, suggestive of cystic mass.

performed, due to the possibility of neoplasia. Surgical procedure evolved without interurrences, as well as postoperative outcome.

The pathological examination showed a kidney measuring 11.6 x 5.8 cm and weighting 305 g, with a pyelocaliceal cyst measuring 4.6 cm in its larger diameter, with smooth and regular walls, filled by whitish, semi-solid and somewhat friable material, which compressed the adjacent renal parenchyma (Figure-2). On microscopy, the cyst was covered by urothelium with extensive squamous metaplasia, abundant keratinization and corneal-lamellar content, compatible with the diagnosis of cholesteatoma (leukoplakia) of the upper urinary tract. There was fibrosing chronic inflammation on the periphery of the cyst, focal chronic pyelonephritis and hyaline vascular nephrosclerosis. No neoplasia was observed.

COMMENTS

Desquamative keratinizing squamous metaplasia of the upper urinary tract, or cholesteatomatous leukoplakia most often is located in renal pelvis and adjacent calices, where sometimes it assumes cystic form. It shows a clear predominance in adult population (97.5% of described cases) and is slightly more common in males than in females (3:2 ratio). The process is more commonly considered as a reactive phenomenon related to chronic urothelial inflamma-

tion, though hypotheses of embryological anomaly or even spontaneous transformation of urothelium into squamous epithelium cannot be ruled out.

It is inconsistently correlated with squamous cell carcinoma, since the progression from metaplasia to neoplasia was never demonstrated (1). Conservative approaches, by percutaneous and transureteroscopic route, or even clinical follow-up have already been described (2,3). In the case of this patient, there was clinical and radiological suspicion of a malignant renal cyst, warranting radical surgery.

The most characteristic sign in renal cholesteatoma is the elimination of flake-like keratinized material in the urine, which becomes opaque. Such alteration is not always present, making pre-operative diagnosis difficult for this rare condition. Imaging exams such as excretory urography and retrograde pyelography can be helpful in suspected cases of renal cholesteatoma, though urothelial tumor must be always considered in differential diagnosis (1).

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Figure 2 – Surgical specimen from nephrectomy presenting cyst with semi-solid content located in renal pelvis and adjacent calices. Insert: histological study of the cyst wall, where we can observe lining epithelium (keratinized squamous epithelium). HE, X100.

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