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Transitional Cell Carcinoma of the Ureter and Struvite Calculi

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ABSTRACT

Context: The association of primary carcinoma of the ureter and lithiasis is extremely rare. We report a rare case of a primary carcinoma of the ureter with corariform calculus.

Case Report: 60-year-old phaeodermal female, reported a history of right-side nephritic colic, hyperthermia and pyuria during the past 20 years and had received treatment for urinary infections a number of times. The first clinical presentation was related to lithiasis and the tumor had not been shown up by excretory urography, cystoscopy or ultrasonography. Two months after the calculus had been eliminated, the patient began to have serious symptoms and a grade III transitional cell carcinoma of the ureter was discovered. Total nephroureterectomy and M.V.A.C. (Metotrexate + Vinblastina + Doxo Rubicina + Cisplatina) chemotherapy were tried unsuccessfully. In this report we emphasize the diagnostic difficulty caused by the concomitant presence of the two pathologies. In our opinion, the rapid evolution in this case is directly related to the high grade of the tumor.

Key Words: Carcinoma. Ureter. Struvite. Calculi. Lithiasis.

INTRODUCTION

The association of primary carcinoma of the ureter and lithiasis is extremely rare, with scaly cell carcinoma being observed in 30% to 50% of the cases.¹ We report a rare case of transitional cell carcinoma and struvite calculus.

CASE REPORT

The patient, a 60-year-old phaeodermal female, reported a history of right-side nephritic colic, hyperthermia and pyuria during the past 20 years and had received treatment for urinary infections a number of times. The patient was well clinically and routine laboratory examinations showed uncomplicated urinary infection, which was undergoing successful treatment. Excretory urography showed large corariform calculus and moderate hydronephrosis in the right-side kidney; signs of repetition pyelonephritis in the left-side kidney; elimination of simultaneous and delay-free contrast. Ultrasonography showed a 25mm cortex in the right kidney and a 5mm cortex in the left kidney. Cystoscopy was performed and a pigtail catheter was

positioned to the right without alterations to the test. Four applications of extracorporeal shock wave lithotripsy were administered over a 50 day period with total elimination of the calculus.

Two months later, the patient presented hematuria, acute urinary retention and nephritic colics on the right side. Ultrasonography showed small hydronephrosis without calculi in the right kidney, and large dilatation of the pelvis throughout the course of the ureter around the left kidney. Cystoscopy showed a papilliform lesion going out through the left ureteral meatus. Biopsies of the meatus rim and vicinities were normal, while those of the lesion showed grade III transitional cell carcinoma attacking the entire ureteral wall (Fig. 1).

Computerized tomography did not show invasion of the bladder or other organs, although the total nephroureterectomy with

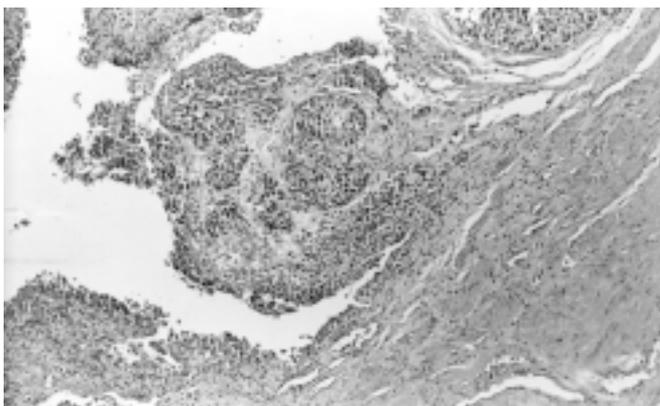


Fig. 1 - Ureter: transitional cell carcinoma (Hematoxylin Eosine: 10.0 x 2.5 x 3.0).

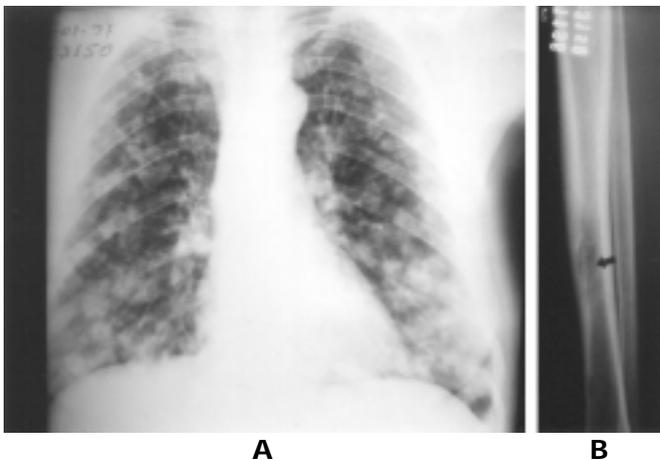


Fig. 2 - Pulmonary(A) and tibia(B) metastasis.

excision of the periorificial bladder could have been incomplete due to the extent of the tumor invasion.

M.V.A.C. (Metotrexate + Vinblastina + Doxo Rubicina + Cisplatina) chemotherapy was resorted to. However, the patient underwent a metastasis in the talus, brain, lungs and left tibia (Fig. 2), and she died 5 months later.

DISCUSSION

The etiopathogenesis of upper urinary tract tumors is extensive. Chronic irritation of the urothelium may occur through inflammations, infections and prolonged contact with carcinogens resulting from the struvite calculus. These appear to be associated with scaly cell carcinoma.^{1,2} This association can not be confirmed in the case of transitional cell carcinoma.

Diagnosis of the tumor was delayed due to the late appearance of symptoms associated with the tumor, such as pain, hematuria and hydronephrosis,⁴ and furthermore, the absence of alterations in excretory urography, cystoscopy and ultrasonography all contributed to this delay.

The tumor grade, which is related to the DNA cell content, was in our opinion decisive in the evolution of this case.³

Computerized tomography did not contribute in this case to the study of tumor invasion in the pelvic region.

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RESUMO

Contexto: A associação de carcinoma primário de ureter e litíase é muito rara, sendo observado em 30 a 50% o carcinoma de células escamosas. Relatamos um caso raro de carcinoma de células transicionais e cálculo de estruvita. **Relato de Caso:** Descreve-se caso raro de carcinoma primário de ureter associado a cálculo corariforme. A apresentação clínica inicial estava predominantemente ligada ao quadro de litíase renal, não detectando-se o tumor pela urografia excretora, cistoscopia ou ultrassonografia. Dois meses após a eliminação do cálculo, a paciente evoluiu com alterações clínicas importantes, sendo então diagnosticado carcinoma de células transicionais de ureter, grau III. Nefroureterectomia radical e quimioterapia M.V.A.C. foram tentadas, sem sucesso. Enfatizamos a dificuldade diagnóstica na concomitância das duas patologias e a rápida evolução do caso, ao nosso ver, diretamente ligada ao grau tumoral.