An Unusual Presentation of an Uncommon Renal Disease

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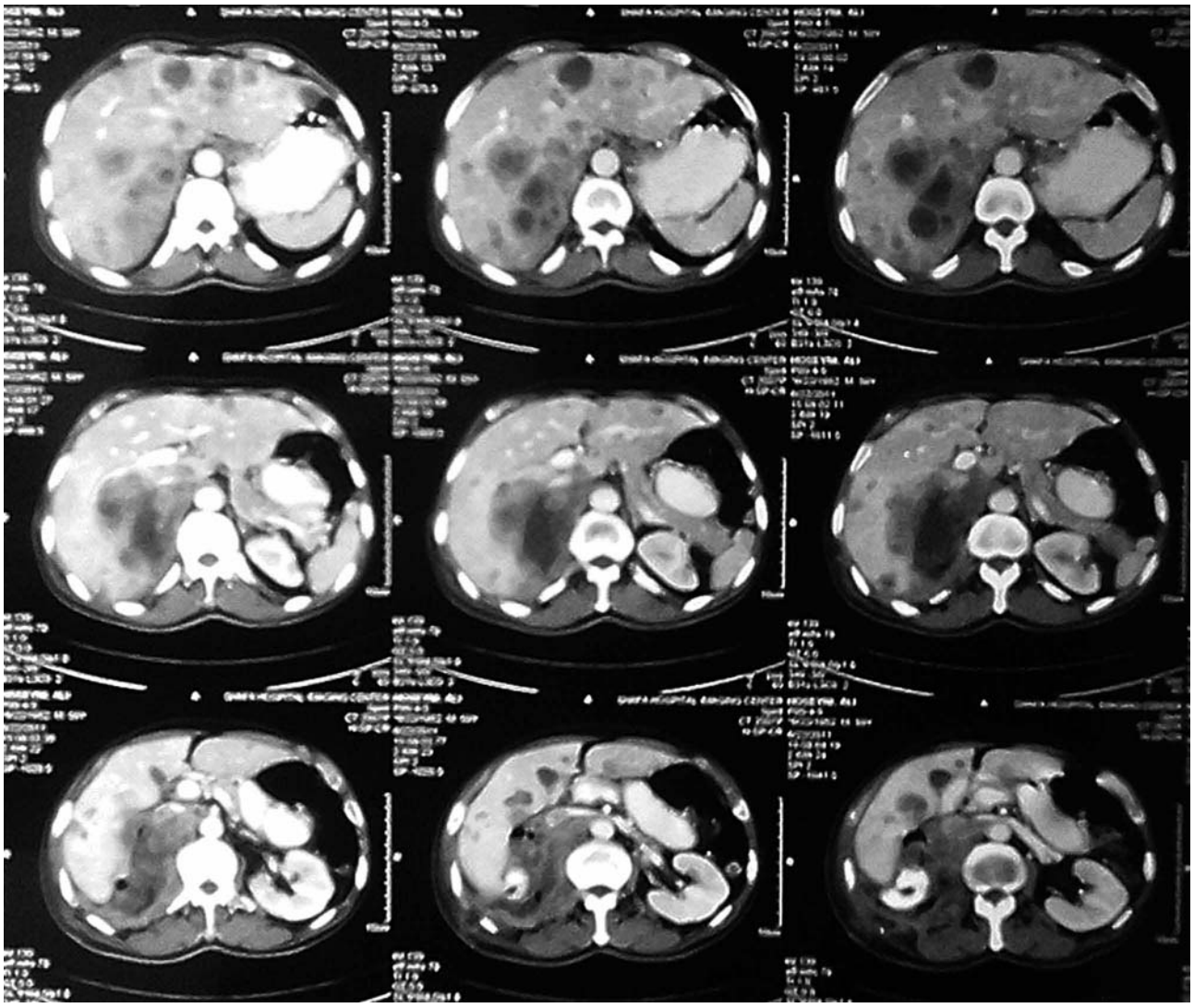
Brief History

A 59-year-old man with a history of right nephrolithotomy for staghorn stone presented with right flank pain and recurrent pyelonephritis. He was planned for right simple nephrectomy because of suspicious xanthogranulomatous pyelonephritis.

Quiz

1. Do you agree with the approach chosen for the diagnosis or do you recommend other imaging studies



Post-chemotherapy computed tomography scan with contrast 2 months after the operation showing multiple hepatic metastases.

or procedures?

2. What do you think the final pathology report of the specimen might be?

The Recommended Approach

In this patient, the ultrasonography revealed pyonephrosis. Therefore, the first step is adequate kidney drainage via nephrostomy tube or double-J stents insertion. The next step is to determine the location and etiology of obstruction. Currently, the most appropriate radiologic modality for the diagnosis of obstruction is computed tomography scan. Ureteroscopy can be complementary to radiologic evaluation to evaluate intramural and mural pathologies.

In case of urinary tract obstruction, in addition to common etiologies, like stone and benign strictures, one should also be suspicious of external pressure and obstruction due to neoplastic lesions. Therefore, evaluation with other imaging studies, such as retrograde pyelography or nephrostography and urine cytology might be indicated. Retrograde pyelography or nephrostography not only can demonstrate intra-calyceal and intra-pelvic lesions perfectly, but also is able to diagnose the presence and level of obstruction in poor functioning kidneys because nuclear scans, such as diethylene triamine pentaacetic acid, are ineffective in this situation.

Operative Findings

During operation, severe adhesion of the Gerota fascia and renal capsule to surrounding tissues, including the psoas, diaphragm muscles, and peritoneum, was noted. There was a yellow, fibrotic mass over the hilum, which had engulfed the whole of the renal pelvis and main vessels and had resulted in severe obstruction. This mass, which has firmly adhered to the posterior abdominal wall, was removed with renal specimen.

Final Pathology Report

High-grade urothelial carcinoma of the pelvis with invasion into the renal parenchyma and perirenal fat was reported. Surgical margins were positive for tumor and pyelocalyceal carcinoma in situ was also present. Pathologic stage was pT3 Nx Mx.

Short-term Follow-up

Back to the patient, he was referred to an oncologist for adjuvant chemotherapy, but in spite of chemotherapy, he developed hepatic metastases (Figure).