



Case Report

Left Flank Pain and Hydronephrosis as the Initial Presentations of Advanced Gastric Cancer

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ABSTRACT

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Ureteric obstruction is rarely noted in cases of gastric cancer. Its involvement by distant metastasis from gastric adenocarcinoma without direct invasion is an exceptionally unusual occurrence. This is the story of a 58-year-old man who arrived at the emergency department with acute flank pain and fever. He was initially diagnosed with obstructive pyelonephritis after the discovery of a new onset, complete ureteric obstruction on the left side. Subsequent investigations and follow-up revealed the presence of gastric adenocarcinoma with possible ureteric metastasis bilaterally, flank pain and hydronephrosis were the first and only presentations of gastric cancer. The rarity of the condition and the unusual presentation encouraged us to report the case.

Introduction

Malignant ureteral obstruction is not uncommon. However, Ureteral involvement by other metastatic malignant tumors is extraordinarily rare(1), and its involvement in cases of advanced gastric cancer is a clinical finding that has been reported sporadically(2). It's extremely rare for gastric cancer to be presented only with symptoms related to the urinary system without other clinical or radiological manifestations. The diagnosis is usually confirmed histologically. However, negative urothelial ureteral biopsies dose not rule out the diagnosis of metastatic gastric cancer (1). We report a case of a 58-year-old male who was initially

presented with symptoms related to the urinary system and finally diagnosed with gastric malignancy causing bilateral ureteric obstruction.

Case presentation

A 58-year-old man with a history of gastric lymphoma was treated with chemotherapy 10 years ago with a complete clinical response, and a history of low-grade transitional cell carcinoma of the urinary bladder was treated with transurethral resection a few years ago with no recurrences identified by follow-up. The patient complained of sudden onset left flank pain radiating to the groin and fever. Laboratory workup showed elevated serum white blood cells

and C-reactive protein, with normal kidney function tests and evidence of urinary tract infection on urine analysis. Triphasic urinary tract computed tomographic scan (CT) was done and showed an area of ureteric wall thickening and enhancement at the upper ureter (figure 1, a) associated with complete ureteric obstruction a few centimeters (cm) distal to the pelviureteric junction as appeared on delayed images at 15 minutes post contrast administration (figure 1,b).

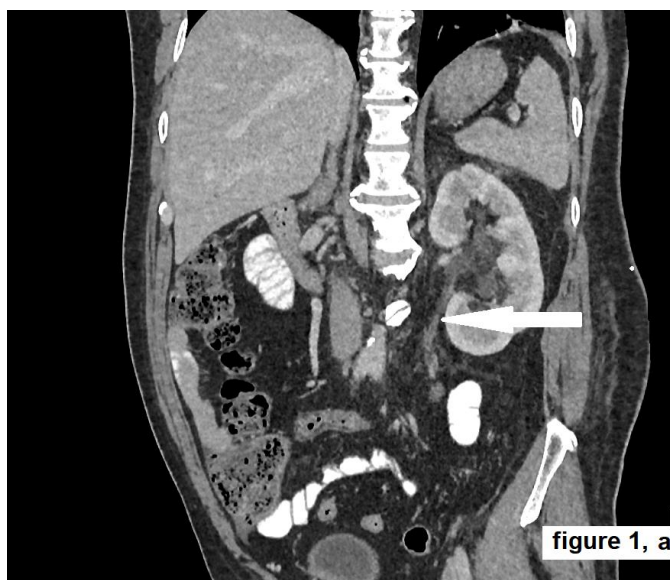


Figure. 1 (a, b) Triphasic urinary tract computed tomographic scan (CT) (a) An area of ureteric wall enhancement detected (arrowed) without evidence of adjacent masses or enlarged lymph nodes, (b) delayed images showed complete ureteral obstruction a few centimeters distal to the pelviureteric junction (arrowed)

There was no evidence of lymph node enlargement or compression from the outside. Additionally, a heterogeneous bone density with a suspected sclerotic lesion at the first vertebral body, measuring 1.7 cm in the axial plane, was noted. A routine follow-up CT scan of the abdomen and pelvis was normal 12 months prior to the presentation. Accordingly, the patient was diagnosed with obstructive pyelonephritis and underwent emergency ureteric stent

insertion. An intraoperative retrograde pyelogram documented complete ureteric obstruction. After eradication of the infection, the patient was admitted for reevaluation, and a follow-up CT scan was done 3 weeks later and documented the appearance of new enumerable sclerotic bone deposits.

The chest CT scan was negative as well. At that time, prostate specific antigen was done and was normal. Diagnostic cystoscopy was normal and ureteroscopy was done and revealed an area of obstruction at the upper ureter. Multiple mucosal biopsies were taken and the ureteric stent was reinserted. Histopathology (figure 2) revealed nonspecific mucosal ulcerations and inflammatory infiltrates with no evidence of malignancy.

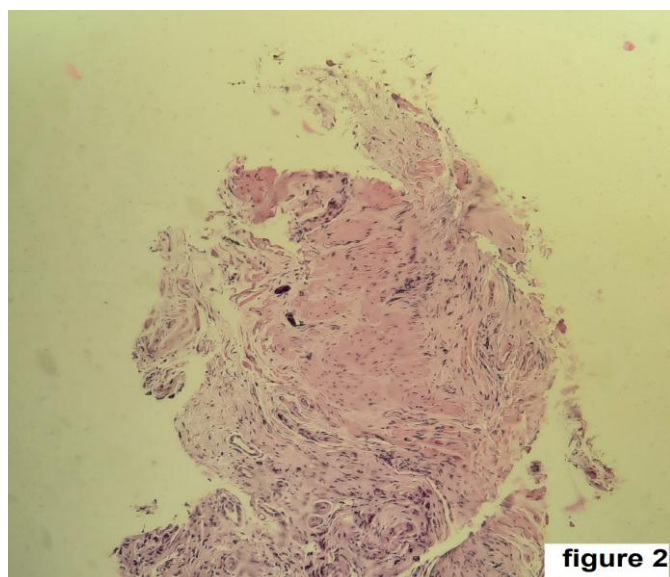


Figure.2: Ureteric biopsy revealed nonspecific mucosal ulcerations and inflammatory infiltrates with no evidence of malignancy

As the first trial of biopsy was not conclusive, a multidisciplinary (radiology, urology, and oncology) meeting was held and the decision to do a second look cystoscopy and multiple random bladder, ureteric, and prostate biopsies was taken. Which confirmed the absence of malignancy. As part of the evaluation, a positron emission tomography (PET) scan was done and showed an area of increased uptake in the stomach, in addition to the new appearance of a new onset right-side hydronephrosis.

Based on this observation, gastroscopy revealed an area of ulceration at the gastric antrum and biopsy showed poorly differentiated adenocarcinoma. He underwent right-side ureteric stent insertion and started on chemotherapy:

Discussion

Metastatic involvement of the ureter should be considered in patients with malignant diseases with initial symptoms consistent with ureteral obstruction, a few cases of gastric cancer have been reported to be initially presented with ureteric obstruction (2-4). Three scenarios have been described for ureteric involvement by metastatic diseases. The first is direct invasion of the ureter by a tumor in a neighboring organ. The second scenario involves

metastasis to lymph nodes around the ureter, resulting in external compression; the third situation, which has been documented sporadically, involves ureter involvement by distant metastases (5). In our case, the absence of radiological evidence of lymph node compression or masses around the area of obstruction necessitates taking a biopsy from the area of obstruction to rule out primary ureteric tumors.

Negative urothelial biopsy does not rule out metastatic ureteric tumors, as some tumors tend to occur in the muscular layer or even in the adventitia beneath the urothelial lining, which is sufficient to cause hydronephrosis and hydronephrosis (1), giving the mistaken impression that malignant illnesses are not a possible source of blockage. This may explain our patient's histopathological findings that are consistent with nonspecific inflammatory changes in the absence of malignant infiltration of the ureteric mucosa.

Synchronous bilateral ureteric involvement by metastatic gastric cancer has been reported (6), which may explain the appearance of contralateral hydronephrosis in our case. Ureteric involvement by metastatic tumors is a sign of bad prognosis and indicates an advanced disease. Treatment of ureteric involvement aims to provide relief of obstruction either by retrograde ureteric stenting or nephrostomy insertion, which are equally effective (1).

Conclusion

Metastatic ureteral tumors should be considered in the deferential diagnosis of ureteral obstruction in patients with known malignancies even in the absence of positive biopsy results, external compression, or direct invasion

Ethical considerations

Informed consent was taken from the patients, and they were informed that all the patient personal data will be disclosed from the public.

Author disclosure statement

The authors declare that they have no competing interests.

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