

CAS CLINIQUE/CASE REPORT

SECONDARY ADENOCARCINOMA OF THE URINARY BLADDER FROM A PRIMARY GASTRIC CANCER

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Farhat MH, Moumneh G, Jalloul R, El Hout Y. Secondary adenocarcinoma of the urinary bladder from a primary gastric cancer. *J Med Liban* 2007 ; 55 (3) : 162-164.

ABSTRACT : Primary bladder tumor is a frequent urological malignancy, whereas the incidence of secondary bladder tumor from a distant organ is quite rare. Secondary bladder neoplasms represent no more than 3% of all malignant bladder tumors in surgical specimens, of which distant metastases from stomach account for about 4%. The signs of bladder neoplasm in a patient with malignancy elsewhere should alarm the clinician for a possible metastatic origin.

We present a patient with primary adenocarcinoma of the stomach, who underwent total gastrectomy and received adjuvant chemotherapy, and was diagnosed with metastasis to the urinary bladder 15 months later.

We review the epidemiology of secondary adenocarcinoma of the bladder, mechanisms of metastasis, associated common primaries with focus on gastric malignancies, radiological findings, and role of immunohistochemical staining.

BACKGROUND

Primary bladder tumor is a frequent urological malignancy, whereas the incidence of secondary bladder tumor from a distant organ is quite rare. Bladder tumors evolve as transitional cell carcinomas in 95% of cases [1-2], whereas primary adenocarcinomas and squamous carcinoma account for less than 5% of all bladder cancers. Secondary bladder neoplasms represent no more than 2% of all malignant bladder tumors in surgical specimens, of which distant metastases from stomach account for only 4% of all secondary bladder neoplasms

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RÉSUMÉ : La tumeur primaire de la vessie est fréquente en pathologie urologique maligne, tandis que l'incidence de la tumeur secondaire à partir d'un organe à distance est rare. Les néoplasmes secondaires de la vessie ne représentent que 3% des échantillons chirurgicaux ; les métastases à distance de point de départ gastrique en représentent 4%. Les signes d'un néoplasme de la vessie chez un patient avec une tumeur maligne dans une autre location doivent avertir le clinicien d'une possible origine métastatique. Dans cet article, nous présentons un patient avec un adénocarcinome gastrique primaire. Il a subi une gastrectomie totale, a reçu une chimiothérapie adjuvante et a été diagnostiqué, 15 mois plus tard, de métastases de la vessie. Nous présentons l'épidémiologie de l'adénocarcinome secondaire de la vessie ; les différents mécanismes d'invasion et les tumeurs primaires correspondantes en stressant sur les tumeurs gastriques. Nous discutons aussi les résultats radiologiques et le rôle du marquage immunohistologique.

[3]. A review of the literature concluded that the majority of cases of gastric cancer metastatic to bladder were reported in the Japanese literature. This is the first case of stomach cancer metastatic to the urinary bladder reported from Lebanon and the region.

CASE PRESENTATION

A 58-year-old man, otherwise healthy, non smoker, underwent total gastrectomy followed by adjuvant chemotherapy for primary adenocarcinoma of the stomach. Fifteen months later, he developed gross, painless, total hematuria. Urine cytology was negative for malignancy. Computed tomography (CT) of pelvis showed a 2 cm mass involving the trigone and the left lateral wall of the bladder (Figure 1). Transurethral resection of bladder tumor was done and pathologic examination revealed metastatic bladder cancer. Pathological examination showed malignant cells infiltrating the bladder wall with intact mucosa. Review of the stomach cancer specimen disclosed the same histological findings (Figures 2 & 3). No other sites were involved. The patient was diagnosed to have metastatic bladder adenocarcinoma from a gastric primary cancer.

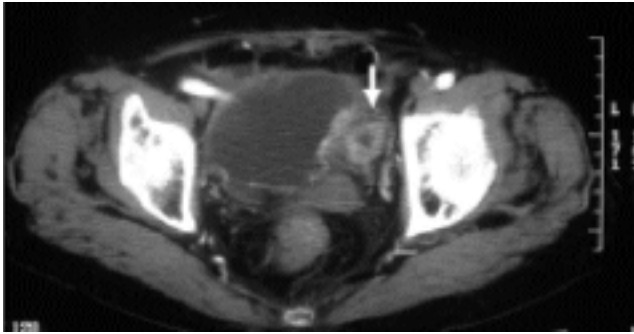


FIGURE 1
CT showing a mass at trigone and left lateral wall of bladder.

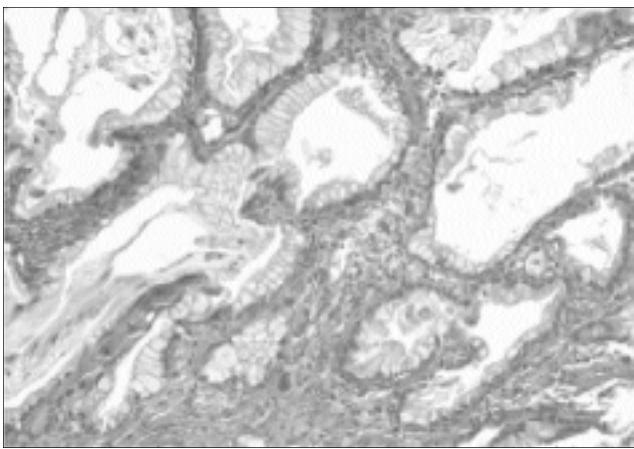


FIGURE 2
Pathology of bladder tumor showing infiltrating carcinoma of glandular pattern compatible with gastric cancer.

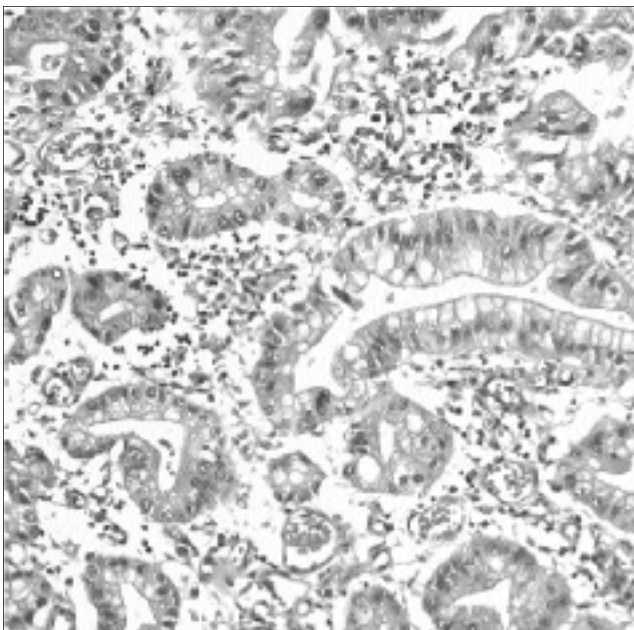


FIGURE 3
Stomach biopsy : the original adenocarcinoma of the stomach. Note the resemblance to the infiltrating glands in the bladder wall.

DISCUSSION

Metastatic tumors account for a small percentage of the urinary bladder neoplastic pathology [4]. Most cases of bladder cancer arise primarily from the bladder, while secondary or metastatic tumors are rare, and constitute less than 2% of all neoplasia affecting this organ [5-6]. The incidence of metastasis to bladder is similar between genders, and mean age ranges from 44 to 63 years [7]. The mechanisms of metastasis to the urinary bladder include direct extension of the primary focus, implants of exfoliated cells from the ureter and renal pelvis, and lymphatic, hematogenous, or peritoneal dissemination from a distant focus [8]. In case of bladder involvement by direct extension, the most common primary sites in descending order are the colon, prostate, rectum and cervix. However, in case of metastasis from a distant organ is considered, the stomach ranks third as the most frequent location of the primary tumor after melanoma and breast cancer [9]. Histologically, 54% of secondary tumors are adenocarcinomas [3]. Adenocarcinoma represents only 0.3 to 3% of all bladder tumors [3]. It is most frequently found in the bladder dome and the anterior wall [10]. The relative infrequency of primary adenocarcinoma of the bladder entails determining whether vesical adenocarcinoma represents a primary or a secondary process. The presence of polypoid formation, Brunner's nests, glandular or mucous metaplasia in the adjacent mucosa makes a primary bladder lesion more likely [11]. In our case, histology revealed neoplastic columnar cells lining well formed variable sized glandular structures, which was in concordance with a gastric component of the tumor. Metastatic gastric cancer to the bladder seems to behave differently between genders. In females, bladder tumors are rarely found in the absence of Krukenberg's tumor (ovarian cancers arising from gastrointestinal origin) ; therefore, the ovary was hypothesized to direct metastasis from the stomach and other gastrointestinal organs to the urinary bladder [11].

Tumor metastasis to the bladder appears on CT as a focal or diffuse thickening of the bladder wall [5, 12]. A finding of diffuse thickening of bladder wall by computed tomography or ultrasound is an alert to the possibility of a metastatic process or recurrence of a prior bladder tumor and therefore other malignancies should be considered [13].

Histochemical stains for mucins do not appear to be useful in distinguishing primary from secondary adenocarcinomas. Mucin expression was found to be present in both bladder and colonic mucosa which limits its usefulness [14]. Similarly, both primary and secondary neoplasms of the bladder are carcinoembryonic antigen (CEA) positive, even though a negative CEA correlates more with a primary bladder neoplasm. Using neuron specific enolase (NSE) and chromogranin does not seem to be useful in differentiating primary from secondary adenocarcinoma because of the presence of neuro-

endocrine cells in both tumors [14-15]. Therefore, knowledge of a history of tumor elsewhere, and comparison with the original histology can establish the secondary nature of a bladder tumor in many cases.

CONCLUSION

The possibility of metastatic bladder tumor should be considered whenever a patient with a history of stomach cancer develops urinary symptoms, or when the bladder wall appears focally or diffusely thickened in such patients.

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سرطان غدي في المثانة ثانوي لسرطان اولي معدي

موجز : اورام المثانة الاولية كثيرة الحدوث في الافات البولية الخبيثة بينما السرطانات الثانوية في المثانة لا تشكل سوى ٣٪ من النماذج الجراحية والنقائل المثانية من سرطان اولي معدي تشكل ٤٪. علامات سرطان المثانة عند مصاب بسرطان عضو آخر يجب ان يلفت انتباه الطبيب لاحتمال كونه من النقائل. تقدم في هذه المقالة حالة مريض مصاب بسرطان غدي معدي اولي واجرى له استئصال المعدة التام وعولج مساعدة بالكميائيات وشخص عنده بعد ٥ شهور نقائل في المثانة. نذكر وبأئيات السرطان الغدي الثانوي في المثانة ويجب ان يفكر بسرطان المعدة حين غزو الورم الغدي. نشير ايضا الى النتائج الشعاعية ودور الواسم المناعي النسيجي.