CASE REPORT
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Metastasis of Gastric Signet-Ring Cell Carcinoma to the Bladder: An Incidental Finding During Cystoscopy

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Abstract

Signet-ring cell carcinoma of the bladder is very rare pathology and can be seen as a primary disease or a metastatic manifestation. In this case report, we present the metastasis of gastric signet-ring cell carcinoma to the bladder, which was detected incidentally during follow-up of a 45-years-old male patient who had previous Ta low-grade urothelial cell carcinoma diagnosis.

Keywords: Signet-ring cell carcinoma, bladder metastasis, gastric metastasis

Introduction

Signet-ring cell carcinoma accounts for a very low rate of bladder neoplasms (0.5-2%) (1). If this histology, which is considered resistant to chemotherapy and radiotherapy, is detected in the bladder, the diagnosis of whether the disease is the primary bladder or metastatic becomes essential. In this article, we present the gastric plasmacytoid/signet ring/diffuse carcinoma metastasis detected during routine cystoscopy in a patient who is being followed up for primary bladder urothelial cell carcinoma.

Case Report

A 43-years-old male patient was evaluated for painless hematuria, and a 2 cm mass in the bladder was detected during the urinary ultrasonography. Cystoscopy was performed and a solitary papillary bladder mass was resected. The pathological diagnosis was low-grade non-invasive urothelial cell carcinoma (Ta). The patient was followed up in routine urological evaluation since this date. During the first cystoscopy control, there was no pathological finding in the bladder, but the next two cystoscopy revealed a recurrence of the bladder tumor with the same histological features (Ta Lowgrade). Due tu this recurrent behavior of the disease, intracavitary mitomycin-c chemotherapy is offered and started. After the 5th instillation of the therapy, the patient developed severe irritative symptoms and the treatment was terminated. During his follow-up, the patient never reported macroscopic hematuria.

In the ultrasonography performed 2 years after the initial diagnosis of the patient, a 2 mm lesion that was visible within the bladder wall and forming a slight bulge toward the lumen was detected (Figure 1). Cystoscopy was performed. Consistent with ultrasonography, a mild edematous, reddish area was detected in this region (Figure 2). Cold-cup punch biopsy was taken. According to the immunohistochemical staining performed, it was found as a signet-ring cell infiltrate under the urothelium, invading the entire lamina propria, containing intracytoplasmic mucin. There was an oncological burden in 3 relatives of the patient (2 lymphoma, one lung cancer). Because of this pathology, the patient underwent gastroscopy and colonoscopy. No pathological formation was detected in the colon. In gastroscopy, there was no significant mass formation in the stomach, but multiple ulcers were detected, predominantly in the corpus and antrum (Figure 3). Pathological analysis showed plasmacytoid/signet ring/diffuse carcinoma (weak cohesive type poorly differentiated adenocarcinoma) in biopsy samples which were obtained from

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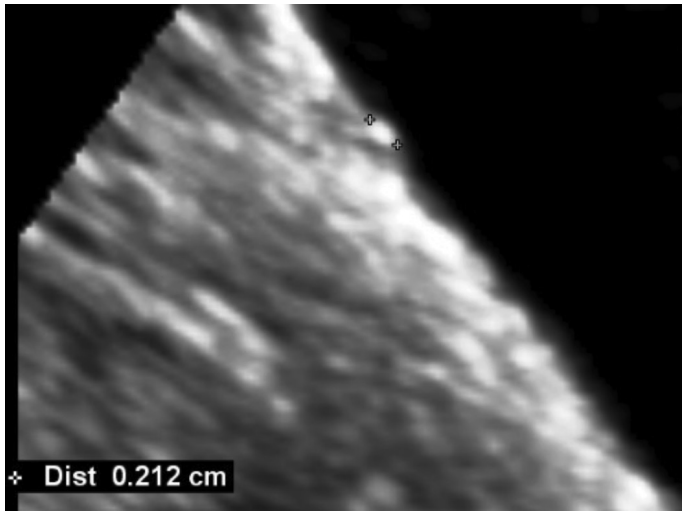

Figure 1. Ultrasonography image of the lesion

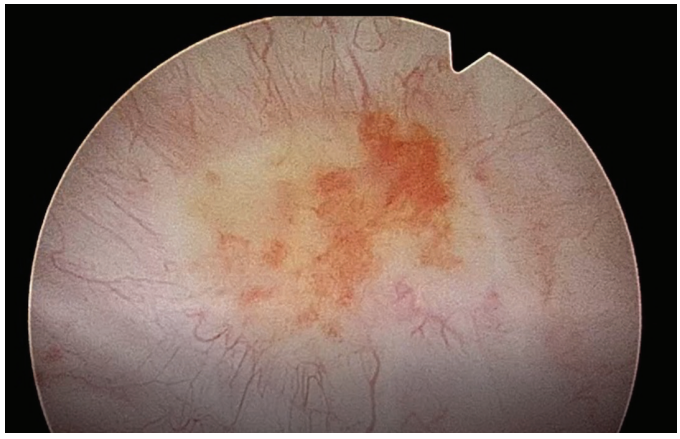

Figure 2. Cystoscopic image of the lesion

these ulcers. Immunochemistry study results were as this: CK20 +, CK7 +, CDX2 +, 0 PASAB +).

In the fluorodeoxyglucose positron emission tomography and abdominopelvic magnetic resonance imaging of the patient, no significant mass formation or metastatic lymph nodes were detected except for thickening in two areas in the bladder and loss of pili in one area of the stomach. The patient is referred to the medical oncology and systemic chemotherapy is initiated.

The patient received 4 cycles of FLOT (fluorouracil. leucovorin, calcium folinate, oxaliplatin) chemotherapy. It was then evaluated at the oncology board and the general surgery offered the option of gastrectomy. The patient underwent gastrectomy. The pathology of the gastrectomy specimen was consistent with primary gastric signet ring cell carcinoma: pT1a, plasmacytoid/signet ring/diffuse carcinoma, signet-cell 60%, cribriform 30%, undifferentiated 10%, with negative surgical margins and metastasis was detected in 34 of 64 lymph nodes removed. The patient's postoperative chemotherapy continues.

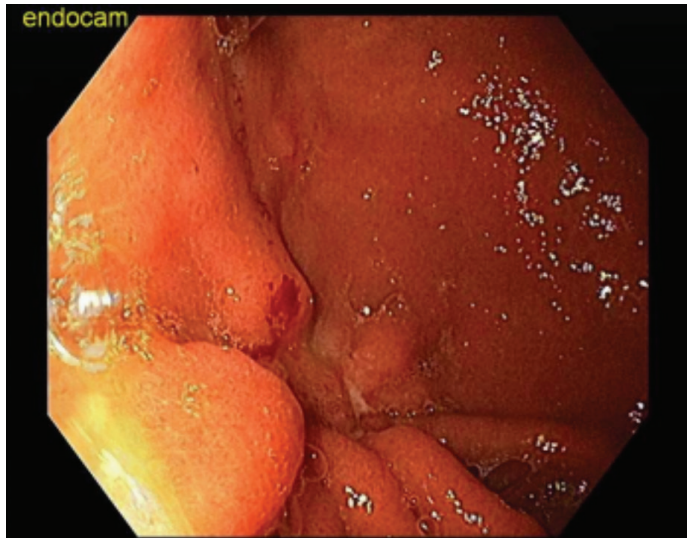

Figure 3. Gastroscopic image: Ulcers

Informed consent was obtained from the patient to share medical information.

Discussion

Although signet ring cell carcinoma is very rarely detected in the bladder, the diagnosis of primary signet-ring cell carcinoma of the bladder is even less so, when such a case is encountered, screening of the gastrointestinal tract becomes essential (2).

Adenocarcinoma of the bladder is usually in the form of invasion of adjacent organs such as the colon and prostate, sometimes primary bladder adenocarcinoma can be detected (3). In such cases, it is essential to correctly identify the carcinoma by immunohistochemical study. In our patient, the IHC studies showed positive results for CK20, CK7, CDX2, and 0 PASAB stains (4).

Generally, gastric signet ring cell carcinoma is detected in the advanced stages. In this patient, routine follow-up because to a previous diagnosis of urothelial carcinoma led to the relatively early detection of the disease, which did not yet cause any radiological or clinical symptoms. Although the appearance of a lesion during cystoscopy is not typical, it can be interpreted in favor of reactive changes in the patient with a history of severe irritation due to intracavitary mitomycin-c treatment, but biopsy was taken due to the possibility of a possible variant pathology or carcinoma *in situ*, and the approach was confirmed for detecting the patient's primary disease.

Ethics

Informed Consent: Informed consent was obtained from the patient to share medical information.

Peer-review: Externally and internally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: T.D., A.R.K., Y.S., Concept: T.D., Design: T.D., Data Collection or Processing: T.D., M.B.T., Analysis or Interpretation: T.D., M.B.T., A.R.K., Y.S., Literature Search: T.D., M.B.T., Writing: T.D., M.B.T., A.R.K., Y.S.

Conflict of Interest: No conflict of interest was declared by the authors.

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