

## LETTERS TO THE EDITOR

### Primary signet-ring adenocarcinoma of the urinary bladder with gastric metastasis or a second primary cancer?

Dear Editor,

Signet-ring cell carcinoma is an adenocarcinoma variant which only rarely involves the urinary bladder and confers a dismal prognosis [1]. The histological pattern poses diagnostic dilemmas since it may be confused with that of a second gastrointestinal tract malignancy. Therefore, a meticulous diagnostic evaluation is needed [2,3].

A 75-year-old woman presented with gross hematuria to our Department. Cystoscopy revealed a papillary lesion on the fundus and the lateral wall of the urinary bladder. A transurethral resection of urinary bladder tumor (TUR-BT) was performed and a high grade muscle-layer invasive signet-ring carcinoma was diagnosed. Pre-TUR-BT staging including CTs of the thorax and abdomen showed no evidence of disease. Due to the rarity of this kind of histology in this anatomic site, a gastroscopy was performed that revealed an erosion of the mucosa of the gastric greater curvature which was proved to be a superficially spreading signet-ring cell adenocarcinoma, limited to the mucosa and the lamina propria. First-line chemotherapy was initiated that included cisplatin 80 mg/m<sup>2</sup>, d1, and gemcitabine 1000 mg/m<sup>2</sup>, d1 and d8, on a 21-day cycle. Due to acute renal failure caused by cisplatin and a serious allergic reaction to gemcitabine, the regimen was switched to carboplatin AUC 5 and docetaxel 60 mg/m<sup>2</sup>, d1, on a 21-day cycle. After the completion of 6 cycles of chemotherapy, a PET-CT scan was performed which showed no evidence of disease. Radiotherapy (6.600) cGy was then delivered to the urinary bladder. On follow up, a gastroscopy showed again the superficial signet-ring adenocarcinoma at the gastric greater curvature and the patient underwent subtotal gastrectomy. The pathologic assessment of the gastrectomy confirmed the presence of the mucosal adenocarcinoma with sparse signet-ring cells.

Adenocarcinoma of the urinary bladder represents a rare malignancy with the signet-ring cell variant being the rarest [1]. In such cases the clinician should bear in mind the possibility of a primary lesion in the gastrointestinal tract or a latent second primary lesion that may alter the treatment and the clinical course of the disease [2,3].

Our patient was found to have 2 simultaneous signet-ring cell carcinomas in distant organs. The lesions were morphologically similar and histochemistry revealed production of mucin. Both lesions shared common immunohistochemical features such as CK7(+), CK20(+), URO3(-), while Ker.903 stained positive only for the urinary bladder lesion. These findings were not conclusive as for the origin of the gastric lesion, but given that the urinary bladder lesion was muscle-infiltrating and the gastric lesion was intraepithelial, we considered the latter as a metastatic one.

After the completion of 6 cycles of first-line chemotherapy, a PET-CT scan showed no evidence of disease. At this point, radiotherapy to the urinary bladder was delivered with curative intent, due to our patient's unwillingness to undergo cystectomy.

Reevaluation of the gastrointestinal tract showed again the superficial signet-ring cell adenocarcinoma at the gastric greater curvature, a finding that made us speculate on the diagnostic value of PET-CT in this setting. Literature reports PET's sensitivity of 60-90% in gastric cancer, which is lower than that at other anatomic sites. However, 18F-FDG uptake has been reported to be relatively low in signet-ring and other mucinous tumors [4,5]. In our case the gastric lesion was not detected by PET-CT, but was still a stable histologic finding. So far, the gastric lesion remained intraepithelial, a fact not usual for a metastatic lesion.

A subtotal gastrectomy was performed that confirmed the limited to the mucosa signet-ring cell adenocarcinoma. Currently, the patient is disease-free and leads an active life.

Taking all the above into consideration, we regarded the gastric lesion as a second primary malignancy.

#### References

1. Wong C, Bégin LR, Reid M, et al. Oliguria; an unusual presentation of primary signet ring-cell adenocarcinoma of the urinary bladder: a case report and review of the literature. *J Surg Oncol* 1999; 70: 64-67.
2. Busto Martín LA, Janeiro Pais M, González Dacal J et al. Signet-ring cell adenocarcinoma of the bladder: case series between 1990-2009. *Arch Esp Urol* 2010; 63: 150-153.
3. Piana P, Giammò A. Primary signet-ring-cell carcinoma of the bladder. Description of a case and review of the literature. *Minerva Urol Nefrol* 1997; 49: 161-164.
4. Yoshioka T, Yamaguchi K, Kubota K et al. Evaluation of 18F-FDG PET in patients with a metastatic or recurrent gastric cancer. *J Nucl Med* 2003; 44: 690-699.
5. Stahl A, Ott K, Weber WA et al. FDG PET imaging of locally advanced gastric carcinomas: correlation with endoscopic and histopathological findings. *Eur J Nucl Med Mol Imaging* 2003; 30: 288-295.

J. Syrios, M. Logothetis, A. Grivas, E. Lianos, A.E. Athanasiou

Department of Medical Oncology A', "Metaxa" Cancer hospital, 51, Botassi street, Piraeus 185 37, Greece

Correspondence to: A.E. Athanasiou, MD. E-mail: nasisath@gmail.com