Recurrent bladder cancer presenting as rectal linitis plastica

Fig. 1 Computed tomography (CT) scan images showing diffuse rectal wall thickening on: **a** axial view; **b** coronal view.

Fig. 2 Endoscopic appearances showing: **a** proximal narrowing and induration at the anal verge; **b** the abnormal appearance of the rectum.

Fig. 3 Rectal endoscopic ultrasound (EUS) showing the thickened rectal wall.

Fig. 4 Immunohistochemical stains showing cells in the submucosal tissue with nuclei that are positive with Gata3.

A 55-year-old man presented with a 4-day history of rectal pain, urgency, and a feeling of heaviness. He had also noticed thinning of the caliber of his stool. His past history included stage II, T2–3, muscle invasive urothelial bladder carcinoma, diagnosed 10 months previously, for which he had received neoadjuvant chemotherapy before undergoing radical cystoprostatectomy, pelvic lymphadenectomy, and the creation of an ileal conduit. A few days prior to this presentation, evaluation by his urologist and oncologist had deemed him to be cancer-free.

Rectal examination revealed marked rectal narrowing, rigidity, and tenderness to palpation. The results of a comprehensive panel of blood tests were normal. A computed tomography (CT) scan showed diffuse rectal wall thickening, with post-operative changes in the pelvis (● **Fig. 1**).

Colonoscopy revealed a markedly narrowed, indurated, firm distal rectal wall, with changes extending from the anal verge to 8 cm proximally (● **Fig. 2**). Rectal endoscopic ultrasound (EUS) showed a diffusely thickened rectal wall to 15 mm circumferentially, with an irregular outer border (● **Fig. 3**). The architecture of the wall layers was discernible and the mucosa propria was the thickest layer, measuring 10 mm. There was one round 5-mm hypoechoic lymph node adjacent to this area.

Rectal tunnel biopsies were obtained. Hematoxylin and eosin (H&E) staining of the biopsy specimens revealed benign colonic mucosa with scattered fragments of submucosal tissue containing rare atypical cells and collections of crushed cells. Immunohistochemical staining demonstrated that the crushed cell population

consisted of heterogeneous lymphoid tissue with scattered single cells in the submucosal tissue whose nuclei were positive with Ki-67, p53, and Gata3 (● Fig. 4), consistent with rectal linitis plastica (RLP) due to infiltration of the rectal wall by the previously diagnosed urothelial carcinoma.

The patient underwent a laparoscopic diverting loop colostomy and was noted to have a 3-cm abdominal wall mass (pathology of this showed it to be metastatic urothelial carcinoma) and numerous pelvic adhesions from tumor infiltration. Postoperatively, the patient was started on chemotherapy and palliative radiotherapy.

RLP is characterized by wall thickening and rigidity due to diffuse infiltration of the submucosa and muscularis propria layers with cancer cells. It is difficult to diagnose because of the sparing of the mucosa. Even when diagnosed early, RLP

can still carry a dreadful prognosis as it has been associated with peritoneal carcinomatosis [1]. There have been very few cases of secondary RLP in patients with metastatic bladder, prostate, breast, and gallbladder cancer [2]. This is the first reported patient in whom RLP was the presenting feature of his recurrent urothelial carcinoma of the bladder.

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**Jana G. Hashash¹, Nadia Habib-Bein²,
Asif Khalid¹, Fadi F. Francis¹**

¹ Division of Gastroenterology, Hepatology, and Nutrition, University of Pittsburgh, Pittsburgh, Pennsylvania, USA

² Department of Microbiology, University of Pittsburgh, Veterans Affairs Pittsburgh Healthcare System, Pittsburgh, Pennsylvania, USA

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Corresponding author

Jana G. Hashash, MD

Division of Gastroenterology, Hepatology, and Nutrition
University of Pittsburgh
200 Lothrop Street, PUH, M2, C-wing
Pittsburgh
PA 15213
USA
Fax: +1-412-648-9378
alhashashj@upmc.edu