Myeloid sarcoma of the duodenum: a rare cause of bowel obstruction and gastrointestinal bleeding

Fig. 1 Computed tomography (CT) scan of the abdomen showing an obstructive luminal mass in the fourth part of the duodenum.

Fig. 2 Enteroscopy images of a friable mass occupying the fourth part of the duodenum.

A 78-year-old man with known relapsing acute myeloid leukemia (AML) presented to the emergency department with a 24-hour history of vomiting. On arrival, he had evidence of coffee ground emesis, his heart rate was 115 beats/minute, and

his blood pressure was 135/89 mmHg. A computed tomography (CT) scan of the abdomen performed to rule out gastric outlet obstruction revealed an obstructive mass occupying the fourth part of the duodenum (Fig. 1). On enteroscopy, the

mass was found to be friable, measuring 5 cm in diameter and occupying 75% of the duodenal circumference (Fig. 2). The lesion bled on contact and on taking biopsies, but the bleeding was controlled by application of the hemostatic powder TC-325 (Hemospray; Cook Medical, Winston-Salem, North Carolina, USA). Histology showed total replacement of the tissue in the biopsy by medium atypical blast-like cells consistent with myeloid sarcoma (Fig. 3), as per the WHO classification, 2008. After a discussion with the oncologist, the patient opted for palliation without further active treatment.

Myeloid sarcoma is the extramedullary manifestation of AML, causing discrete tumor masses rather than diffuse infiltration. It occurs in the skin, lymph nodes, gastrointestinal tract, testis, or bone, and may occur prior to, concurrent with, or following a diagnosis of AML or another myeloproliferative disorder [1,2]. Involvement of the duodenum is rare, with only eight cases reported in the literature and with most patients presenting with either abdominal pain or bowel obstruction [3]. Although bleeding arising from myeloid sarcoma has been reported in other parts of the gastrointestinal tract, to our knowledge, this represents the first reported case of a duodenal myeloid sarcoma presenting with upper gastrointestinal bleeding (UGIB). In addition, this report demonstrates the successful application of TC-325, a promising hemostatic powder, in the management of UGIB due to malignancy [4].

Clinicians should keep in mind this rare entity when approaching a patient with bowel obstruction or UGIB, particularly in the presence of a myeloproliferative disorder.

Fig. 3 Light microscopy of a biopsy that revealed duodenal myeloid sarcoma showing: **a** a monotonous population of medium-sized blasts with finely divided chromatin, small or inconspicuous nuclei, a small to moderate amount of cytoplasm, and indistinct cell membranes on a hematoxylin and eosin (H&E)-stained section (magnification $\times 800$); **b** strong membranous staining with immunohistochemical staining for CD43 (magnification $\times 400$; similar staining was observed for CD45); **c** overall variable moderate cytoplasmic staining with immunohistochemical staining for lysozyme (magnification $\times 400$).

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