Signet-ring cell cancer of the colon presenting as facial and gastroduodenal metastasis 7 years after sigmoidectomy

Fig. 1 Endoscopic images showing lesions with a smooth surface, normal color, and bridging folds, which resemble submucosal tumors with central depression or ulceration, covering all of the: **a** gastric fundus; **b** gastric body; **c** gastric antrum; **d** gastric angle; **e** duodenal bulb; **f** second portion of the duodenum.

Fig. 2 CT image showing bull's-eye sign in gastric antrum (arrow).

A 46-year-old man presented with a red, nonpainful, fast-growing nodule with ulceration in the face, along with nausea and weight loss. Seven years ago, he had undergone sigmoidectomy for signet-ring cell adenocarcinoma (stage T2N0M0) in the sigmoid colon, and he had been followed up and appropriately screened regularly for cancer recurrence after the surgical intervention.

Colonoscopy showed normal mucosa and no local recurrence. Because the patient complained of nausea and weight loss, gastroscopy was performed to exclude a primary gastric tumor. This revealed multiple nodules covering the whole of the gastric fundus, gastric body, gastric antrum, and gastric angle. Multiple nodules were also found within the bulb and second portion of the duodenum (● **Fig. 1**). On endoscopic examination, the lesions had a smooth surface, normal color, and bridging folds, which resembled submucosal tumors with central depression or ulceration, corresponding to the “bull’s-eye sign” on radiographs (● **Fig. 2**). Destroyed gastric mucosal and submucosal anatomy were also shown by endoscopic ultrasonography (● **Fig. 3**).

Histopathological examination of nodular lesions from the skin (● **Fig. 4**) and gastrointestinal lesions revealed diffuse infiltration of the cutaneous/mucosal and subcutaneous/submucosal tissue by signet-ring tumor cells (● **Fig. 5**). Immunohistochemical analyses indicated diagnoses of secondary tumors, all suggestive of colonic origin. The patient was without hepatic or pulmonary involvement until his death, 7 months later.

Facial metastases of colorectal cancer are extremely uncommon, with few descriptions in the literature [1]. The face may be the first site of recurrence of an underlying cancer, but this usually occurs within 4–5 years of the primary resection [2, 3]. Synchronous gastric and duodenal metastatic tumors from the colon are very rare. More frequently, lesions are located in the middle or upper third of the stomach [4, 5]. Endoscopically, most resemble submucosal tumors with a central depression [4]. The liver and lung are the usual locations of distant metastases from colorectal cancer. The patient we report presented with remote facial cutaneous and extensive gastrointestinal mucosal metastases, not associated with other visceral secondary tumors up until the patient’s death. This case thus shows unusual features, both clinical and pathogenetic, that have not been previously described.

Fig. 3 Endoscopic ultrasound image showing destroyed mucosal and submucosal anatomy in the gastric antrum (arrows).

Fig. 5 Histological sections of the lesions: hematoxylin and eosin staining (magnification $\times 200$) shows large sheets and aggregates of signet-ring cell adenocarcinoma infiltrating: **a** cutaneous, and **b** gastrointestinal mucosa.

Fig. 4 Red nonpainful nodule with ulceration on the left side of the face.

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Competing interests: None

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