Primary gastroduodenal amyloidosis

Amyloidosis is characterized by tissue deposition of insoluble fibrillar proteins in various organs [1]. In humans, more than 23 different and unrelated proteins are known to form amyloid fibrils [2]. Amyloidosis is divided into primary (i.e. idiopathic) and secondary amyloidosis (i.e. associated with chronic inflammatory conditions, and infectious and neoplastic disorders) [1]. Primary amyloidosis is extremely rare in the gastrointestinal tract. Fewer than 1% of patients with primary amyloidosis in the gastrointestinal tract have any symptoms [3]. We report a case of primary gastroduodenal amyloidosis in which endoscopic ultrasound (EUS) was instrumental in the work-up.

A 76-year-old man presented with a history of fatigue, dyspepsia, and anemia. An upper-gastrointestinal endoscopy revealed prominent gastric folds and gastropathy (● Fig. 1a).

Gastric biopsies showed only signs of un-specific inflammation. The patient developed diarrhea and weight loss. Abdominal computed tomography (CT) showed un-specific gastric wall thickening. The initial suspicion was a malignant disease such as scirrhous carcinoma, which led to an EUS referral. EUS revealed gastric wall thickening (● Fig. 1b) and a complete lack of normal sonographic layers in the stomach wall, suggestive of an infiltrative disease (● Fig. 1b), but no sign of malignancy. Another upper-gastrointestinal endoscopy was undertaken with new biopsies from the stomach and bulbous duodeni. Congo red staining revealed amorphous eosinophilic infiltrates (● Fig. 2a) and green birefringence under polarized light (● Fig. 2b), which is diagnostic for amyloidosis [1].

It may be suggested that tissue deposition of insoluble proteins causes the sonographic disappearance of normal gastric wall layers in amyloidosis. This patient had no systemic disease such as a chronic immune disease or neoplastic disorder, which are the most common causes of secondary amyloidosis. Thus this patient had a primary amyloidosis in the gastroduodenum. In conclusion, this case highlights the use of EUS in the work-up of patients with suspected amyloidosis in the stomach and duodenum.

Fig. 1 **a** Endoscopic image of the stomach. The endoscopic view shows prominent and irregular gastric folds in the corpus, with food remnants. **b** Endoscopic ultrasound (EUS) image of the stomach, revealing increased gastric wall thickening (9.6 mm) and loss of the typical 1–3 sonographic wall layers, although layer 4 (muscularis propria) is normal (arrow).

Fig. 2 Photomicrographs from gastric biopsies, stained with Congo red. **a** Sample viewed with normal light revealed amorphous eosinophilic infiltrates in the interstitium (arrow). **b** Sample viewed with polarized light showed green birefringence (arrow) of areas stained with Congo red, which is diagnostic for amyloidosis.

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References

- 1 Ebert EC, Nagar M. Gastrointestinal manifestations of amyloidosis. *Am J Gastroenterol* 2008; 103: 776–787
- 2 Buxbaum JN. The systemic amyloidoses. *Curr Opin Rheumatol* 2004; 16: 67–75
- 3 Menke DM, Kyle RA, Fleming CR et al. Symptomatic gastric amyloidosis in patients with primary systemic amyloidosis. *Mayo Clin Proc* 1993; 68: 763–767

Bibliography

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