Our experience with endocytoscopy (ECS) in the lower gastrointestinal tract has shown good correlation between ECS and histology in detecting aberrant crypt foci [1] and carcinoid tumor [2]. To our knowledge, ECS imaging of gastric signet ring cell (SRC) carcinoma has not been previously described.

A 40-year-old man and a 60-year-old woman underwent subtotal gastrectomy at our institution for early gastric cancer, which was histologically proven to be SRC carcinoma. Previous endoscopic examination had classified the lesions as type 0 Ila-c and type 0 III [3], with diameters of 1.3 cm and 1.5 cm, respectively. In both cases macroscopic examination of fresh surgical specimens confirmed the presence of a nodule at the gastric anterior wall (Fig. 1). After staining according to the technique already described [1,2], lesions were evaluated using a prototype Olympus XEC-300-U endocytoscope (Olympus Medical System Co., Tokyo, Japan).

No glandular structures were observed on ECS examination; instead these structures had been replaced by groups of cellular elements characterized by cytoplasmic halos and a peripheral location of the nucleus (Fig. 2 a). This finding corresponded to the typical histologic aspect of SRC carcinoma, having a large amount of mucin within neoplastic cells, which was confirmed by both standard hematoxylin and eosin histologic examination (Fig. 2 b) and immunophenotypical characterization of the areas previously explored by ECS. The morphologic correspondence between ECS images (Fig. 3 a) and histology (Fig. 3 b) was also striking for single peculiar neoplastic cells.

If these results are confirmed by further experience in vivo, ECS could gain a relevant role in the therapeutic decision-making process for early gastric cancer, which requires precise information, including tumor differentiation and size [4]. The ability to target biotic sampling by means of ECS for both lesion and the transition zone between cancer and normal mucosa, might improve the selection of patients for endoscopic mucosal resection.
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