Case 5.2
The Hidden Cecal Region: Highlighted in a Clinical Case

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Background

Accurate exploration of the cecal region represents a fundamental step in achieving a proficient colonoscopy and in improving the adenoma detection rate [1].

The morphology of the cecal valve or a redundant tenia coli may sometimes obscure or mimic the cecal region. Thus, the endoscopist should carefully inspect this region by locating the endoscope below the valve's lower lip in order to reduce the rate of missed early colorectal cancers [2]. In addition, intubation of the terminal ileum has been suggested by many authors as definitive proof of a total colonoscopy [3].

An improved endoscopic view is now available with new techniques such as virtual chromoendoscopy. A magnifying view provides added value in the early detection of colorectal cancer; however, the endoscopist must keep in mind the "red flags" regarding the mucosal appearance of these tumors [4].

Laterally spreading tumors account for 5% of all polypoid and non-polypoid lesions, with a higher prevalence in the cecum and rectum; thus, a careful inspection of the cecal region should be mandatory [5].

Clinical Presentation

A 75-year-old female came to our attention for endoscopic treatment of a sessile rectal polyp of 10 mm detected in another hospital. An outpatient total colonoscopy (PCF-Q260AI, Olympus, Tokyo, Japan) performed in our institution showed a faint reddish change and a slight unevenness of the cecal mucosa, just below the lower lip of the cecal valve.

Chromoendoscopy with 0.4% indigo carmine dye disclosed a laterally spreading tumor, granular type, with a small sessile component 20 mm in diameter. Narrow-band imaging (NBI) showed the meshed capillary vessels as dark-brown areas suggesting a non-invasive neoplastic lesion (Fig. 5.11). After the injection of a hyaluronic acid formulation (Mucoup, Seikagaku, Tokyo, Japan) into the submucosal layer, an en bloc resection was performed with a Captivator Micro-Hex snare (Boston Scientific, MA, USA). The cecal defect was closed with three endoclips (Olympus, Tokyo, Japan). The clinical course of the patient was uneventful, without bleeding or perforation (Fig. 5.12).

Histologically, the removed specimen was a well-differentiated adenocarcinoma with submucosal invasion of the lymph follicle (Fig. 5.13).

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A. Trecca (ed.), *Atlas of Ileoscopy*,
DOI: 10.1007/978-88-470-5205-5_5.2, © Springer-Verlag Italia 2013

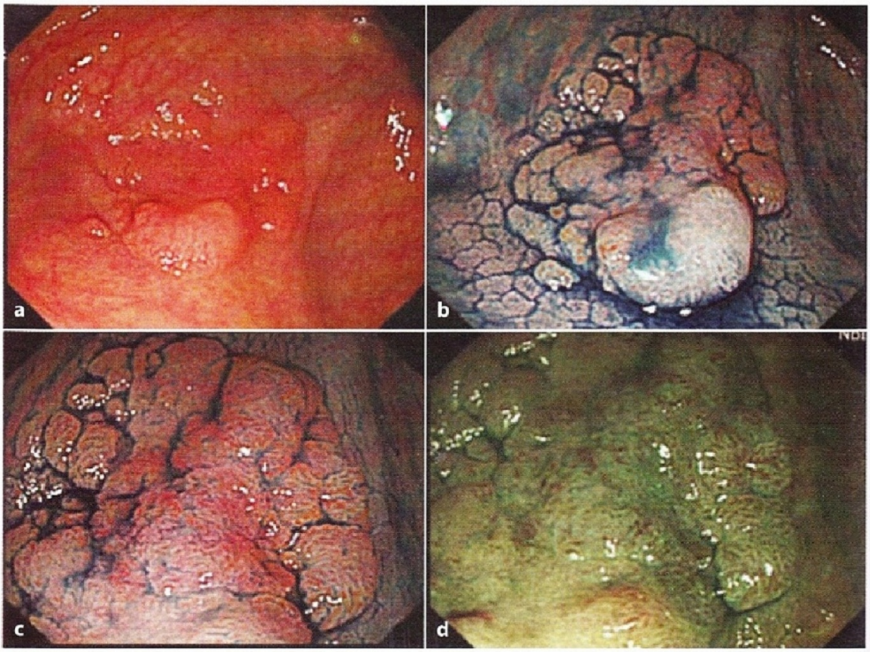

Fig. 5.11 **a** The lesion was detected as faint reddish change and mucosal unevenness, just below the lower lip of the cecal valve. **b** Chromoendoscopy disclosed a laterally spreading tumor, granular type, 20mm in diameter. **c** The image shows the center of the tumor suggesting carcinoma in endoscopic findings. **d** Narrow band imaging showed the meshed capillary vessels suggesting a non-invasive neoplastic lesion

Open Issues

A well-performed total colonoscopy should include accurate inspection of the cecal region in order to reduce the rate of missed colorectal lesions during the endoscopic procedure. Correct positioning of the colonoscope in the ileocecal region is an essential step in obtaining a thorough inspection. Straightening the colonoscope in the left colon and in the transverse colon improves its maneuverability.

The use of an anticholinergic agent or CO_2, or a transparent hood attached to the tip of the colonoscope provides better visualization of the cecal region and facilitates intubation of the ileal valve [6]. This endoscopic

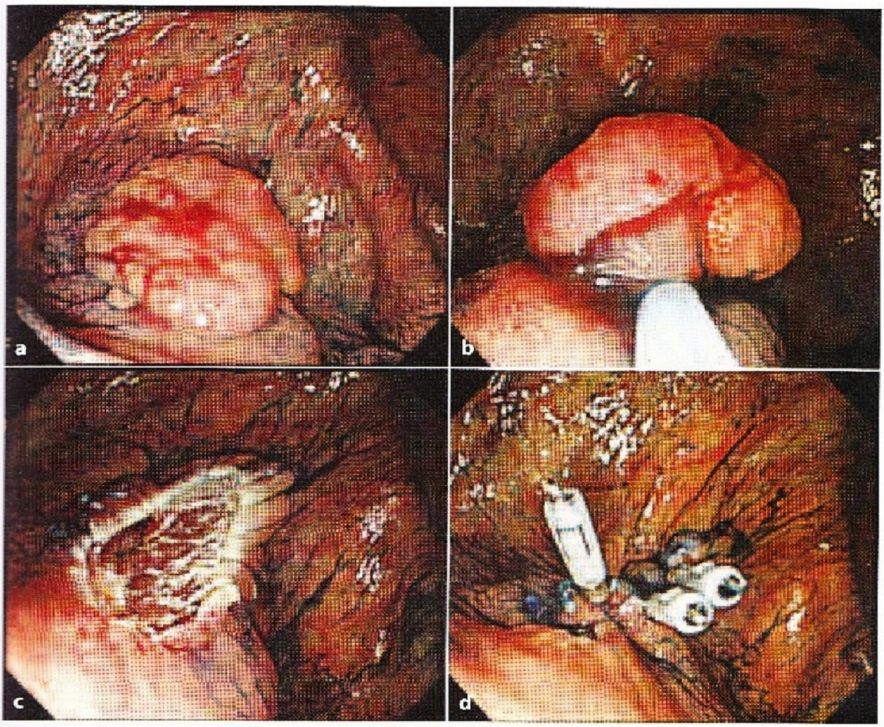

Fig. 5.12 **a** The injection of a hyaluronic acid formulation, reveals negative "no-lifting sign". **b** An en-bloc resection was performed with a snare. **c** Mucosal defect was seen. **d** The cecal defect was closed with three endoclips

"armamentarium" must be part of the endoscopist's know-how, as confirmed in our patient in whom the previous colonoscopy failed to detect a laterally spreading tumor in the cecum.

En-bloc endoscopic mucosal resection is the ideal treatment of these lesions, even if their large diameter can necessitate a piecemeal resection [7]. However, this endoscopic procedure cannot guarantee an accurate histological examination, accounting for the higher incidence of recurrence. Nonetheless, high-definition endoscopy based on a skilled technique can assure a safe and definitive oncologic treatment, as confirmed in this case by the histological examination [8].

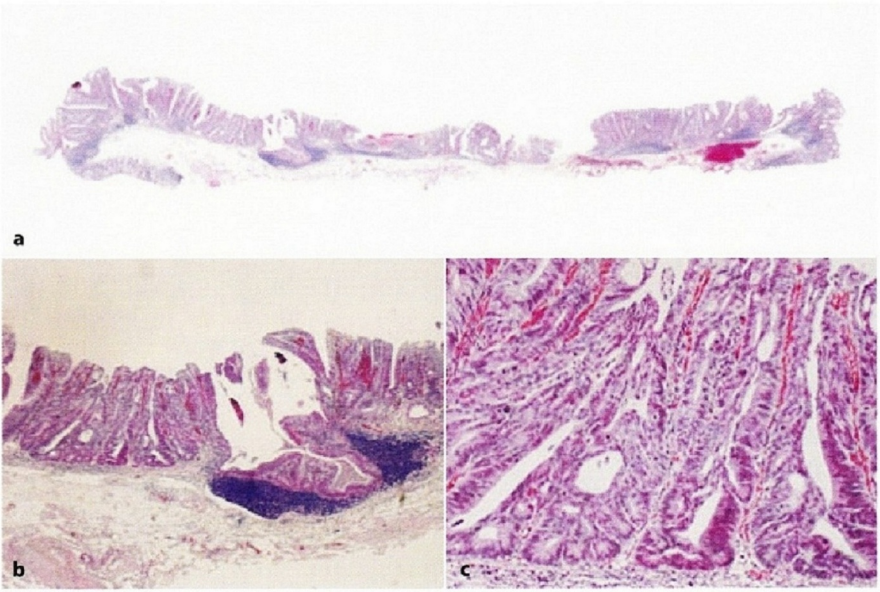

Fig. 5.13 **a** Histologically, the lesion was shown to have been completely resected by EMR. **b** Well differentiated adenocarcinoma slightly invading the submucosal layer. **c** High power view of the well differentiated adenocarcinoma

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Multiple Choice Questionnaire

1) **What is the incidence of laterally spreading tumor, granular type among all colorectal lesions?**
   a. 10%
   b. 20%
   c. 30%
   d. 5%

2) **Which is the more frequent site of a laterally spreading tumor?**
   a. left colon
   b. rectum
   c. cecum and rectum
   d. sigmoid colon

3) **Which is the most frequent location of tumors with a flat-type appearance?**
   a. transverse colon
   b. right colon
   c. sigmoid colon
   d. rectum

4) **Which is the most frequent location of tumors with a polypoid-type appearance?**
   a. transverse colon
   b. right colon
   c. left colon
   d. rectum

5) **What are the current indications for colorectal endoscopic submucosal dissection?**
   a. polypoid lesions <40 mm in diameter
   b. all laterally spreading tumors and non-polypoid lesions
   c. laterally spreading tumors located in the rectum
   d. lesions with submucosal invasion ≤1000 μm, with negative lymphovascular invasion and a well differentiated component

1.d – 2.c – 3.a – 4.c – 5.d