



Image of the Month

A case of screening colonoscopy using linked-color imaging to detect ulcerative colitis-associated colorectal cancer



Shuji Kanmura*, Akihito Tanaka, Yuga Komaki, Akio Ido

Digestive and Lifestyle Diseases, Kagoshima University Graduate School of Medical and Dental Sciences, Japan

The long-term course of ulcerative colitis (UC) is characterized by an increasing incidence of UC-associated colorectal cancer (UCAC). Although the standard method for detecting UCAC is dye-based chromoendoscopy, it has recently reported that dye-based and dye-less chromoendoscopy do not differ significantly in terms of detection of UCAC [1]. Linked-color imaging (LCI) is a new endoscopic technique that can enhance color differences in the gastrointestinal mucosa by simultaneously using white light and narrow-band, short-wavelength light. (Fujifilm, Tokyo, Japan). Furthermore, LCI observation with indigo carmine dye (LCI-i) emphasizes irregularities on the mucosal surface by enhancing color contrast. We encountered a patient with UCAC that was clearly identified using LCI-i. A 57-year-old woman who had extensive colitis with stenosis for 30 years following UC onset, had undergone surveillance colonoscopy annually according to ECCO guidelines [2]. Using high-definition WLI, we detected a reddish mucosal lesion with fuzzy borders in the rectum. LCI demonstrated that the lesion was redder than the surrounding mucosa; furthermore, LCI-i showed that the lesion had an irregular border and surface pattern, and magnified blue laser demonstrated an abnormal microvascular pattern and clear demarcation line. Pathological examination of a biopsy specimen confirmed the presence of well-differentiated adenocarcinoma at the flat, red lesion (Fig. 1). The patient underwent total colectomy and was diagnosed with intramucosal colorectal cancer without lymph node metastasis.

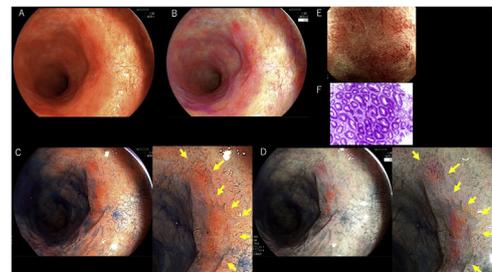


Fig. 1. A. High-definition (HD) white-light imaging (WLI) of the rectal lesion. This was a nonpolypoid depressed lesion with visible dysplasia and distinct borders according to the SCENIC consensus. B. Linked-color imaging (LCI) of the rectal lesion. C. HD-WLI with indigo carmine dye spraying; yellow arrows indicate the lesion. D. LCI with indigo carmine dye spraying (LCI-i); yellow arrows indicate the lesion. E. Magnified view of blue laser imaging shows the microvascular pattern. F. Histopathology shows adenocarcinoma (tub2).

Conflict of interest

None declared.

References

- [1] Bisschops R, Bessissow T, Joseph JA, et al. Chromoendoscopy versus narrow band imaging in UC: a prospective randomised controlled trial. *Gut* 2018;67:1087–94.
- [2] Magro F, Gionchetti P, Eliakim R, et al. Third European Evidence-based consensus on diagnosis and management of ulcerative colitis. Part 1: definitions, diagnosis, extra-intestinal manifestations, pregnancy, cancer surveillance, surgery, and ileo-anal pouch disorders. *J Crohns Colitis* 2017;11:649–70.

* Corresponding author at: Digestive and Lifestyle Diseases, Department of Human and Environmental Sciences, Kagoshima University Graduate School of Medical and Dental Sciences, 8-35-1 Sakuragaoka, Kagoshima 890-8544, Japan.

E-mail address: skanmura@m2.kufm.kagoshima-u.ac.jp (S. Kanmura).