

## Image Quiz

# Colonic Lacerations, Mucosal Scars and Image Enhancement: An On-the-Spot Diagnosis

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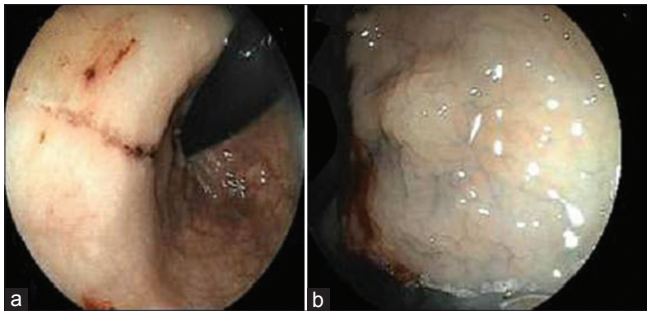
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An 84-year-old female was admitted with acute-on-chronic renal failure. She had been complaining of profuse, watery diarrhoea and vomiting for few weeks prior to her admission. She had a previous history of aortic valve replacement and hypothyroidism for which she was on beta-blockers, frusemide, aspirin and levothyroxine. She was also on lansoprazole. Stool microscopy and cultures were negative, whilst the kidney ultrasound and autoimmune profile were unremarkable. Her colonoscopy showed lacerations in the right colon and a longitudinal mucosal fracture with an adjacent cicatricial lesion in the rectum [Figure 1a]. A reticulo-nodular mucosal pattern was also noted with indigo carmine chromoendoscopy [Figure 1b].

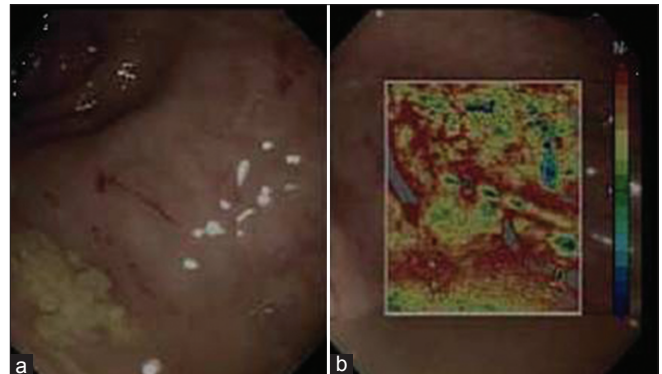
Another 77-year-old female, on long-term lansoprazole and naproxen, was referred for evaluation of increased bowel frequency and abdominal pains. A colonoscopy revealed few cicatricial lesions in the left colon and fresh mucosal lacerations in the ascending colon [Figure 2a]. Furthermore, application of Index of Haemoglobin (Ihb) colour enhancement revealed redness of the surrounding mucosa [Figure 2b].

## QUESTIONS

- Q1. What is the diagnosis?  
Q2. What are the suggestive features of this entity on endoscopy and chromoendoscopy?



**Figure 1:** (a) Longitudinal mucosal fracture and adjacent cicatricial lesion in the rectum; (b) Reticular-nodular mucosal pattern with indigo carmine chromo endoscopy



**Figure 2:** (a) Fresh mucosal lacerations in ascending colon; (b) Index of Haemoglobin (Ihb) colour enhancement showed clear redness of the surrounding mucosa

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DOI: 10.4103/1319-3767.105929

## ANSWERS

Biopsies revealed a thickened subepithelial collagen table, increase in the intraepithelial lymphocytes and inflammation of the lamina propria, characteristic of collagenous colitis (CC). CC is associated with normal or almost normal colonoscopy and clinically follows a benign course. The concurrent presence of mucosal lacerations and/or fractures in the thin-walled right colon with hypertrophic (celoid type) mucosal scars in the left colon is considered highly suggestive of CC.<sup>[1]</sup> Moreover, a mosaic or “honeycomb” mucosal pattern with disarranged innominate mucosal grooves, is indicative of CC. It has been shown that chromoendoscopy with indigo carmine accentuates those changes thereby aiding in endoscopic diagnosis of CC.<sup>[2,3]</sup>

Index of Haemoglobin (IHb) features an algorithm that increases the redness of mucosa, based on the received R (red) and G (green) signals. Therefore, mucosal areas of increased blood supply are accentuated in red. It is incorporated in the EVIS LUCERA videoscope system (Olympus® Tokyo, Japan) and is applicable for image analysis of endoscopic color and enhancement of the mucosal vascular flow change.<sup>[4]</sup> Enhancement of mucosal pattern either with indigo carmine chromoendoscopy or IHb application, especially when other colonoscopic findings (mucosal fractures, scars or lacerations) are strongly suggestive of CC, should be considered as a further useful step towards an “on-the-spot” diagnosis and should prompt initiation of therapy without delay. In the first case, budesonide was commenced during a hospital re-admission, as beta-blockers and lansoprazole

discontinuation had no effect.

By that time, biopsies had confirmed thickening of the sub-epithelial collagen band and an extensive denudation of the surface epithelium with focal increase of the intraepithelial lymphocytes. The second patient received budesonide immediately post-colonoscopy with remarkable effect.

In conclusion, we recommend that in cases with pathognomonic colonoscopic findings, therapy should be started immediately post-endoscopy, thus avoiding unnecessary delays in patient management.

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**Source of Support:** Dr. E Alexandridis has received research support (unrelated to this work) by FUJINON. Dr. A Smimidis is supported by a grant from ELIGAST. Dr. A Koulaouzidis has received Lecture Honoraria from Dr. FalkPharma UK Ltd and research support from Given® Imaging Ltd (unrelated to this work).

**Conflict of Interest:** None declared.

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