Confocal laser endomicroscopy for the diagnosis of diversion colitis

Confocal laser endomicroscopy (CLE) and virtual chromoendoscopy (VCE) are advanced endoscopic imaging techniques. i-Scan (Pentax, Japan) is a contrast-enhancing computed program [1], while CLE enables in vivo histological examination [2,3].

Studies from our group described the diagnostic utility of CLE and VCE, such as for Crohn’s disease [4–6]. However, data regarding the applicability of VCE and CLE for the diagnosis of diversion colitis have not been provided so far.

Here, we describe the case of a 33-year-old woman who underwent an ileocecal resection and colorectal diversion 4 years previously because of a complicated ileocecal and rectal endometriosis with poor postoperative wound healing and the occurrence of a rectovaginal fistula. She reported diarrheic stools, which were still abundant (12–15 occurrences of diarrhea/day) even after a therapeutic attempt with high-dose steroids and antibiotics.

High definition endoscopy (EPK-i, Pentax, Japan) showed a highly inflamed and friable mucosa with large ulcerations, loss of haustration, spontaneous bleeding, and mucus mixed with pus in the lumen (Fig. 1a) of the diverted colorectum. Subsequent examination of the same area by CLE (Pentax EC-3870 CIFK, Japan) upon intravenous administration of fluorescein as a contrast agent, revealed a pronounced crypt rarefaction, hypervascularization with moderate leakage, and typical crypt abscesses (Fig. 1b).

Subsequent histopathological evaluation (hematoxylin and eosin stain) of conven-
tional biopsies taken from the same location confirmed the endomicroscopic findings (Fig. 2a). There was no evidence of cytomegalovirus with the specific stain.

As a therapeutic consequence, the patient received topical therapy with salicylates. In a control colonoscopy with i-Scan, performed approximately 10 weeks later, we saw an endoscopic improvement of the colitis (Fig. 2b), a fact that confirmed our diagnosis and choice of specific therapy.

In conclusion, this article reports the first description and in vivo diagnosis of diversion colitis after surgery, by virtual chromoendoscopy and fluorescein-guided CLE, respectively.

G. Hundorfean, M. T. Chiriac, J. Siebler, M. F. Neurath, J. Mudter
Medical Clinic I, University of Erlangen-Nuremberg, Erlangen, Germany

Acknowledgment

We thank M. Vieth, Institute of Pathology, Klinikum Bayreuth, Bayreuth, Germany, for providing the histologic image (Fig. 2a) and for helpful discussions.

References

1 Kodashima S, Fujishiro M. Novel image-enhanced endoscopy with i-scan technology. World J Gastroenterol 2010; 16: 1043

Corresponding author

G. Hundorfean, MD
Medical Clinic I
University of Erlangen-Nuremberg
Ulmenweg 18
91054 Erlangen
Germany
Fax: +49-9131-8535102
gheorghe.hundorfean@uk-erlangen.de