Extensive small-bowel Crohn’s disease detected by the newly introduced 360° panoramic viewing capsule endoscopy system

Chronic, nonbloody diarrhea may represent a diagnostic challenge in patients with inconclusive findings after standard clinical work-up [1]. In this setting, small-bowel capsule endoscopy (SBCE) has high sensitivity and a favorable clinical impact in assessing the presence of small-bowel mucosal lesions in patients with suggested Crohn’s disease and no obstructive symptoms [1–3]. Very recently, the CapsoCam SV-1 (CapsoVision, Inc. Saratoga, California, USA) has been introduced as a new standard in SBCE. The system allows lateral panoramic 360° viewing with wire-free technology, long-lasting battery life, and 12–20 frames per second captured by four high-resolution cameras located on the capsule sides and facing the four quadrants of the digestive wall [4,5]. To the best of our knowledge, there is no published report on the use of this new technique in patients with suspected small-bowel Crohn’s disease. Here, the case of a 51-year-old woman with a 2-year history of chronic, nonbloody diarrhea is presented. Physical examination was unremarkable and laboratory parameters were within the reference ranges, with the exception of...
of a low albumin level (3 g/dL). Nonsteroidal anti-inflammatory drug use, infectious disorders, and abdominal cross-sectional imaging did not reveal any lesions. Previous upper and lower endoscopy with biopsies and terminal ileum were observed and ulcers (n = 97) from the distal duodenum to the ileum. An impressive number of erosions (n = 27) occurred among normal-appearing mucosa, with no trace of strictures. The 360° panoramic view, together with the high rate of recorded frames, allowed for a clear characterization of each lesion. A remarkable number of frames were recorded per erosion or ulcer (mean 7 frames [range 3–33] per ulcer), and distinct perspectives of lesions were captured by each camera (mean number of cameras capturing the lesion, 1.5 [range 1–3]). This feature represents a tangible improvement in lesion classification and differential diagnosis (i.e., for classification of the lesion type or distinction between different or redundant findings). Based on these findings, the diagnosis of extensive small-bowel Crohn’s disease was made and the patient improved with specific therapy.

This case is interesting for several reasons. First, an unusual case of extensive luminal small-bowel Crohn’s disease was identified in a patient with a long history of chronic, nonbloody diarrhea. Second, the report adds to the growing literature on advanced endoscopic imaging techniques for the small bowel [1–3]. Finally, the performance of a new standard for SBCE has been described, providing multiple, high resolution images and visualizing different aspects of each lesion, which have the potential to improve both the diagnostic yield and the confidence of the operator in assessing the diagnosis and the differential diagnosis.

Video 1
Capsocam SV-1 short video of the distal ileum, characterized by several ulcers of different sizes and depths in a patient with suspected Crohn’s disease.

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Competing interests: None

References
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Bibliography
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