Real-time histological imaging of a squamous cell carcinoma in situ in the anal canal using endocytoscopy

Squamous cell carcinoma (SCC) of the anal canal is rarely diagnosed at an early stage [1]. Endocytoscopy provides ultra-high magnification, thereby allowing the diagnostic evaluation of structural and nuclear atypia and of the vascular structures of gastrointestinal lesions [2,3]. Endocytoscopy combined with narrow-band imaging (EC-NBI) enables a detailed observation of the microvessels [4]. To our knowledge, no studies have previously described the performance of endocytoscopy or EC-NBI for an SCC in situ in the anal canal.

The screening colonoscopy of a 60-year-old asymptomatic woman revealed a slightly elevated 25-mm lesion with scattered reddish spots in the anal canal (▶ Fig. 1a). At 520-fold magnification, EC-NBI (GIF-H290EC; Olympus Medical Systems Corp., Tokyo, Japan) showed abnormal microvessels with differences in caliber, variations in shape, and multiple bends (▶ Fig. 1b), consistent with the intrapapillary capillary loop patterns observed in esophageal SCC in situ. The lesion was stained with 1% methylene blue and real-time cellular images were obtained at the same magnification. The cell nuclei appeared as regularly arranged dot-like structures in the normal anal canal mucosa (▶ Fig. 1c). A significantly increased cellular density, with structure loss, and enlarged nuclei that were heterogeneous in size and shape were observed in the lesion (▶ Fig. 1d; ▶ Video 1). The abovementioned pathological findings from a biopsy would suggest SCC of the anal canal. No obvious metastasis was observed and the lesion was shallow, therefore endoscopic submucosal dissection was performed. Pathological examination confirmed that the resected specimen was an SCC in situ (▶ Fig. 2).

To our knowledge, this is the first report of the use of endocytoscopy for examination of an SCC in situ in the anal canal. We believe that the endocytoscopy findings for such SCCs would be similar to those for esophageal lesions because esophageal lesions also arise from squamous epithelial cells [5]. Future studies are warranted to validate these findings for anal SCC and establish their utility and accuracy.

Acknowledgments

We thank Edanz (https://jp.edanz.com/ac) for editing a draft of this manuscript.

Competing interests

The authors declare that they have no conflict of interest.
The authors

Manami Utsunomiya1, Shigetsugu Tsuji1, Azusa Kawasaki1, Kenichi Takemura1, Kazuyoshi Katayanagi2, Hiroshi Minato2, Hisashi Doyama1

1 Department of Gastroenterology, Ishikawa Prefectural Central Hospital, Kanazawa, Japan
2 Department of Diagnostic Pathology, Ishikawa Prefectural Central Hospital, Kanazawa, Japan

Corresponding author

Shigetsugu Tsuji, MD, PhD
Department of Gastroenterology, Ishikawa Prefectural Central Hospital, 2-1 Kuratukihigashi, Kanazawa, Ishikawa 920-8530, Japan
shigetsugu1909@yahoo.co.jp

References


Bibliography

Endoscopy
DOI 10.1055/a-1655-8401
ISSN 0013-726X
published online 2021
© 2021, Thieme. All rights reserved.
Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany

ENDOSCOPY E-VIDEOS
https://eref.thieme.de/e-videos

Endoscopy E-Videos is a free access online section, reporting on interesting cases and new techniques in gastroenterological endoscopy. All papers include a high quality video and all contributions are freely accessible online.

This section has its own submission website at https://mc.manuscriptcentral.com/e-videos

Utsunomiya Manami et al. Real-time histological imaging... Endoscopy | © 2021. Thieme. All rights reserved.