Histological R0 classification after colorectal endoscopic submucosal dissection: a gold standard with feet of clay

The residual tumor (R) classification is the gold standard for the evaluation of residual tumors after treatment [1]. As an important predictor of prognosis, it is of considerable clinical significance. It takes into account the clinical and pathological examination of the tumor. In the field of colorectal lesion resection, a resection is considered R0 when the tumor is removed in a single piece (en bloc) with tumor-free lateral and vertical margins. For resection of a superficial lesion to be considered curative, an R0 en bloc resection with histology no more advanced than a well-differentiated adenocarcinoma and submucosal invasion of less than 1 mm without lymphovascular invasion is currently required [2].

We herein report the case of a patient with a 4-cm granular laterally spreading tumor in the left colon (Fig. 1). This lesion includes a 10-mm Kudo Vn Sano 3b demarcated area highly suspicious for deep invasive degeneration (Fig. 2, Fig. 3). During endoscopic submucosal dissection (ESD), contact was made with the lesion, which invaded the entire submucosa and probably even the initial fibers of the muscle (Fig. 4, Video 1). Although the resection was highly suspicious of R1 on clinical examination, pathological examination initially suggested a complete R0 resection. After reanalysis and new cut of slices, the resection was reclassified R1, and final histology of the resection specimen was in favor of a deep tumor deposit.

This case of anatomical-clinical discordance shows that good collaboration between clinicians and pathologists remains essential. Pathological examination is also subject to sampling error: by
making 8-micrometer sections every 2000 micrometers, only 0.4% of the tumor volume is examined. Clinical examination of a lesion should take precedence over pathological examination. In practice, R0 en bloc resection could be a goal for all colorectal lesions. In the future, artificial intelligence may help overcome these limitations of pathological examination and determine more precisely the deepest point of invasion.

Competing interests

The authors declare that they have no conflict of interest.

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