The Ki-67 labeling index and lymphatic/venous permeation predict the metastatic potential of rectal neuroendocrine tumors

Endoscopic resection has been used to treat small rectal NETs, however, the indication for additional surgery after endoscopic resection is unclear. This study aims to identify risk factors for rectal NET metastasis.

Fifty-five patients with a total of 57 rectal NETs, treated between October 2003 and January 2013, were retrospectively divided into metastatic (11 lesions) and non-metastatic (46 lesions) groups. Tumor size, central depression, invasion depth, lymphatic and venous permeation, mitotic activity, nuclear abnormality, Ki-67 labeling index, and World Health Organization grading classification (G1 or G2) were compared between the groups. Patients underwent endoscopic submucosal resection with a ligation device, transanal full-thickness surgical resection, or radical surgery.

This study identified the following factors led to increase risk of metastases by univariate analysis: K-67 index >3%, positive lymphatic or venous permeation, G2 NET, >10mm in size and central depression. On multivariate analyses vascular permeation and a Ki67 index >3.0% were independent risk factors for metastasis.