Optimal management of T1 colorectal cancer

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Endoscopic resection (ER) is indicated to treat intramucosal colorectal cancer (Tis) because the risk of lymph node metastasis is nil. Surgery is indicated to treat T1 cancers because of the 6-12% risk of lymph node metastasis (LNM). There is increasing evidence, however, to suggest that lesions with submucosal (SM) invasion <1,000μm without lymphovascular invasion and without poorly differentiation also have a minimal risk of LNM and can be cured by ER alone. However, lymphovascular invasion and poorly differentiated adenocarcinoma components are impossible to predict before resection, the vertical depth of invasion of T1cancers can be estimated based on the morphologic appearance during endoscopy. It is therefore quite important to be able to distinguish neoplasms that are candidates for ER from those that will require surgery, because ER of lesions containing massive T1 cancer is associated with the risks of bleeding and perforation and is unlikely to be curative.

Magnifying chromoendoscopy is a standardized, validated method that facilitates detailed analysis of the morphological architecture of colonic mucosal crypt orifices (pit pattern) in a simple and efficient manner. The clinical classification of the colonic pit pattern (invasive and non-invasive) by using magnifying chromoendoscopy was originally described by Fujii with the aim to discriminate between intramucosal-SM superficial invasion and SM deep invasion. The existence of a non-invasive pattern as determined by magnifying chromoendoscopy is the minimum requirement for all lesions that are candidates for endoscopic treatment. An invasive pattern is characterized by irregular and distorted pits observed in a demarcated area suggesting SM deep invasion (>1,000μm). Our data showed that 99.4% of lesions diagnosed as “non-invasive pattern” were adenoma, intramucosal cancer or SM invasion less than 1,000μm. Among lesions diagnosed with “invasive pattern”, 87% were cancers with SM deep invasion. Based on the macroscopic appearance, the diagnostic sensitivity of the clinical pit pattern to determine the depth of invasion of polypoid, flat and depressed lesions was 75.8%, 85.7% and 98.6%, respectively.

EMR is now a well-established technique worldwide for the treatment of colorectal neoplasms with minimal invasiveness; however, the high frequency of local recurrence after piecemeal EMR for large lesions is considered a serious problem. To avoid this problem, Japanese endoscopists developed a new technique that allows en bloc resection of larger colorectal lesions. This technique, known as ESD, starts with the SM injection, followed by dissection beginning at the lateral edges and working through the SM layer until the lesion is removed in one piece. Despite its longer procedure time and higher complication rate, ESD resulted in a higher en bloc resection rate compared to that seen with conventional or piecemeal EMR.EMR/ESD techniques, new devices and

injected solution have been developed that enable us to treat larger colorectal lesions and early stage colorectal cancers endoscopically. Therefore, pre-operative endoscopic diagnosis becomes still more important. Moreover, it is indispensable to have knowledge of early stage colorectal lesions including T1 cancers.