NARROW BAND IMAGING FOR DETECTION OF NON-POLYPOID COLORECTAL NEOPLASMS; A PROSPECTIVE STUDY

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Background
Non-polypoid (flat and depressed) colorectal neoplasms (NP-CRN) are more difficult to detect by conventional white light colonoscopy (WLC) or computed tomography colonography, because the subtle findings can be difficult to distinguish from those of normal mucosa. Narrow band imaging (NBI) has been reported to highlight the mucosal capillaries of neoplastic lesions, and thus increase the detection rate of colon polyps, however, the detection rate of NP-CRN, especially depressed in shape, has not been assessed yet.

Aim
To investigate the detection rate of NP-CRN using NBI colonoscopy in comparison to WLC.

Patients and method
From July 2003 to March 2010, a consecutive of 8862 colonoscopies in 5015 patients conducted in TF clinic was necrotosed in this study. All colonoscopies were performed by a single experienced endoscopist (TF), an expert in the field of magnifying chromoendoscopy. Total colonoscopy was introduced into cecum with WLC, and then withdrawn with WLC or NBI for observation. The patients were divided into three groups as follows for analysis: 8679 colonoscopies in 3223 patients (November 2003 to March 2010; Group A) examined with WLC before introducing NBI system, 1206 colonoscopies in 1098 patients (July 2003 to October 2008; Group B) examined with WLC after introducing NBI system, and 777 colonoscopies in 694 patients (November 2008 to March 2010; Group C) examined with WLC after introducing NBI system. The primary endpoint of this study is to assess the detection rate of CRNs with NBI. The difference of detection rate of all neoplastic lesions, polypoid and CRNs than WLC. Further prospective study in randomized fashion is necessary to clarify this difference.

Results
1. A total of 397 NP-CRN (4.5%) was detected in this study population.
2. NBI colonoscopy detected significantly more NP-CRN than WLC before NBI (7.2% vs 4.3%, p<0.001) and WLC after NBI (7.2% vs 3.6%, p<0.001).

Conclusion
NBI colonoscopy can detect a significant number of NP-CRN. This new technique has the potential to detect more NP-CRN than WLC. Further prospective study in randomized fashion is necessary to clarify this difference.