A Pilot Study for Feasibility and Efficacy of i-scan for Screening Colonoscopy

Sung Noh Hong, Hosuk Kang, Jung Hyun Lee, Yeon Soo Kim, Jeong Hwan Kim, Sun Young Lee, Hyung Suk Park, Chan Sup Shim

Digestive Disease Center, Konkuk University Medical Center, Seoul, Korea

Background: Many efforts have been made to maximize the sensitivity of the colonoscopy including endoscopic image enhancing technology. I-scan is newly developed digital contrast method and the practical usefulness of I-scan for detecting colorectal neoplasm during screening colonoscopy has not been known yet. We evaluated that the pan-colonic application of i-scan during colonoscopic withdrawal period could improve adenoma detection as compared with standard white light examination.

Method: This prospective randomized controlled trial was performed on average-risk patients aged 50 to 74 year of age who underwent screening colonoscopy using white light (WL group), i-scan CE/SE mode (i-scan-CE/SE group) and i-scan CE/SE/TE-c mode (i-scan-TE-c group). Main outcome was measured adenoma detection rate (ADR) in per-polyp analysis and per-patients analysis.

Results: We enrolled 162 patients and randomly assigned 45 to the WL group, 45 to i-scan-CE/SE group and 46 to i-scan-TE-c group. On the per-polyp analysis, ADR in WL, i-scan-CE/SE and i-scan-TE-c group was 1.02±1.31, 1.36±2.47 and 1.39±2.73, respectively. The adenoma detection rate showed no significant difference compared among the groups (p=.681). In addition, on the when sub-group analysis by the location, size and shape of adenoma, ADR were similar among the groups. On the per-patient analysis, ADR was 0.56, 0.52 and 0.61, respectively. There was no significant differences among the groups (p=.708).

Conclusion: I-scan for screening colonoscopy did not improve the adenoma detection rate compared with conventional examination.

Key Words: Screening, Colonoscopy, i-scan, Virtual chromoendoscopy