EDITORIAL

Clin Endosc 2023;56:455-456
https://doi.org/10.5946/ce.2023.112
pISSN: 2234-2400 • eISSN: 2234-2443

Open Access

CLINICAL ENDOSCOPY

The role of narrow-band imaging with or without dual focus in the detection of polyps smaller than 10 mm, especially diminutive polyps

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See "Utility of narrow-band imaging with or without dual focus magnification in neoplastic prediction of small colorectal polyps: a Vietnamese experience" by Tien Manh Huynh, Quang Dinh Le, Nhan Quang Le, et al., Clin Endosc 2023;56:479–489.

Colorectal cancer is one of the most common cancers worldwide and a leading cause of cancer-related deaths.[1] Because most colorectal cancers occur in the adenoma-carcinoma sequence, early detection and endoscopic removal of precancerous lesions can reduce the incidence and mortality associated with colorectal cancer.[2,3] More than 90% of polyps are <10 mm in diameter;[4] hence, accurate optical diagnosis and resection of small polyps may aid in the prevention of colorectal cancer. Several methods have been used to improve the accuracy of diagnosing colon polyps, and narrow-band imaging (NBI), an imaging-enhanced endoscopy technique developed in 2006, has played a significant role. NBI helps visualize the microvascular morphology and surface pit pattern of colon polyps.[5] These aids in evaluating the histological prediction of colon polyps and whether endoscopic resection would be possible. The recently developed dual-focus (DF) function improves the visualization of microstructure patterns by combining digital and optimal magnification.[5]

Received: April 20, 2023 **Revised:** May 17, 2023 **Accepted:** May 18, 2023

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Huynh et al.[6] conducted a study on the histological predictive value of NBI with or without DF in small colon polyps <10 mm in diameter. This retrospective study was performed at a single center in Vietnam, and 530 polyps in 343 patients were evaluated. Polyps <10 mm in diameter were found in adults aged 18 years or older who underwent colonoscopy. Patients who underwent histological examination were included in the study. The histological pattern of all polyps was predicted via endoscopy in the 3 following stages in the following order: white-light endoscopy (WLE), NBI, and NBI with DF (NBI-DF). The predicted patterns were compared with the histological examination results. For neoplastic lesions, the predictive accuracies of WLE, WLE+NBI, and WLE+NBI+NBI-DF were 70.8%, 87.4%, and 90.8%, respectively. In particular, for polyps <5 mm, the predictive accuracy of WLE+NBI+NBI-DF was significantly higher than that of WLE+NBI (90.1% vs. 87.3%, $p<0.001$). Therefore, both WLE+NBI and WLE+NBI+NBI-DF can increase the histological assessment accuracy for polyps <10 mm in size. Additionally, this study confirmed that DF is particularly useful for polyps <5 mm in size.

Preliminary diagnoses using NBI and NBI-DF have been reported. Although the accuracy varies from 79 to 96.6% for each study, an overall rather high accuracy is reported. A large-scale meta-analysis of 56 studies that used NBI for tumor prediction showed excellent diagnostic performance with a sensitivity of 91.0% and a negative predictive value of 82.5%.[7] Factors that

affect the accuracy of NBI and NBI-DF are the endoscope's optical system, degree of cleanliness of the polyp surface, use of an appropriate classification such as the NBI international colorectal endoscopic (NICE) or Japan NBI Expert Team (JNET) classification, and experience of endoscopists. In particular, the endoscopist's experience can significantly impact accuracy. The accuracy of NBI and NBI-DF is reportedly 93% and 94%, respectively, when performed by endoscopists who have performed >1,000 colonoscopies and >500 NBIs.[8] Another study determined that the accuracy of NBI-DF was 95.7% when performed by endoscopists with 3 to 15 years of experience and experience with the Kudo and Sano classification.[9] Considering these results, the diagnostic accuracy of NBI is higher than that of WLE, and this further augmented by the use of DF mode in addition to NBI. Huynh et al.[6] confirmed that NBI-DF is significantly more accurate than NBI for diminutive polyps (<5 mm in size). Diminutive polyps may be considered less clinically important; however, in areas with limited medical resources, distinguishing between adenomas and non-neoplastic polyps would aid in determining which lesions can be removed. Therefore, if endoscopists can be appropriately trained in NBI, the unnecessary expenditure of medical resources could be avoided by the performance of NBI and NBI-DF.

The study by Huynh et al.[6] has some limitations. First, because the study was conducted at a single center, it cannot be generalized to the overall medical environment of Vietnam, including primary centers. Second, there may be inter-observer variations. Finally, all polyps were evaluated first using WLE, followed by NBI and NBI-DF, which may have provided an undue advantage in the NBI test. However, because this staging is commonly used in the clinical field, it reflects the actual clinical scenario.

In summary, Huynh et al.[6] reported that NBI-DF plays a very important role in detecting polyps <10 mm in size, especially the detection of diminutive polyps. Additionally, NBI-DF plays an important role in the prediction of the histological pattern of colon polyps and can be used during polypectomy and colonoscopy.

Conflicts of Interest

The author has no potential conflicts of interest.

Funding

None.

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