



Could pre-operative NE-NBI finding be useful to determine accurate surgical margins in undifferentiated-type early gastric cancer patients?

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Early gastric cancer (EGC) is defined as being mucosal or submucosal invasion, and is curative because of the low risk of lymphovascular metastasis (1). In the 2000s, endoscopic submucosal dissection (ESD) was developed and prevailed for the curative resection of EGC (2,3), and the diagnostic modalities have also been improved, including high-resolution white light imaging (WLI) (4), narrow band imaging (NBI) (5), and catheter probe endoscopic ultrasound (EUS) (6). Of note, the usefulness of magnifying endoscopy with NBI (ME-NBI) has been recognized as indispensable and widely used in daily ESD, or for the preoperative determination of the surgical margin in Japan.

On the other hand, due to the lower comparative prevalence of gastric cancer in the West, there is less usage of NBI in daily practice during diagnostic gastroscopy. In addition, with the lack of combined ME-NBI facilities in many European district general hospitals at present, much experience and training are still required in ME-NBI to help improve the detection of EGC.

With ME-NBI, Yao *et al.* established a VS classification system with high-level accuracy (4), focusing microvascular (MV) pattern and microsurface (MS) pattern. Nowadays, many endoscopists are combining both WLI and ME-NBI as reliable diagnostic tools for EGC (7). Probe-type EUS has been used and could provide more information on the depth of invasion, which could not be assessed correctly by WLI or ME-NBI because these modalities are mainly used for diagnosis of the differentiation type

and demarcation line only from the surface pattern of the tumor. Therefore, if it is difficult to determine the depth with WLI, then probe-type EUS could give additional, beneficial information about the depth of the EGC (8), and sometimes it is indispensable before ESD.

In spite of recent advances for an accurate endoscopic diagnosis, an accurate preoperative diagnosis of undifferentiated (UD)-type EGC is still difficult. Nakayoshi *et al.* reported a UD-type EGC with ME-NBI is characterized by the irregular vessels with a “corkscrew sign” (9). In issue of *Annals of Laparoscopic and Endoscopic Surgery*, a study is presented by Horiuchi *et al.* on the usefulness of ME-NBI for the preoperative determination of UD-type EGCs (10). The authors reported that on using WLI only, 47.3% of cases had a preoperatively diagnosed tumor margin in UD-type EGCs, and with combined WLI and ME-NBI, the accurate diagnosis rate improved to 81.5%. A more improved modality is needed because of nearly 20% cases still could not receive a margin diagnosis, however, considering the inapplicability of data using WLI only, ME-NBI is indispensable as a preoperative modality to perform curative gastrectomy. Their results support previous studies and suggest a more informed decision on the safe surgical margin is needed for UD-type EGC.

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