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Characteristics of Missed Synchronous Gastric Epithelial Neoplasms

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See "Characteristics of Missed Simultaneous Gastric Lesions Based on Double-Check Analysis of the Endoscopic Image" by Eun Jeong Gong, Jeong Hoon Lee, Kyoungwon Jung, et al., on page 261-269.

Endoscopic resection is now established as a standard treatment for gastric epithelial neoplasms such as early gastric cancer and adenoma. Careful preprocedural evaluation and proper patient selection are important for successful therapeutic outcomes; therefore, repeated endoscopy is often planned when a patient is referred, and a more detailed examination is thought to be necessary for deciding the treatment strategy. The development of gastric epithelial neoplasm is associated with atrophy or intestinal metaplasia of background mucosa; thus, synchronous multiple lesions are common. The prevalence of synchronous gastric cancer has been reported to range from 4.8% to 20.9%,¹⁻⁷ and the prevalence of synchronous lesions after endoscopic resection has been reported to be 2.0% to 11.6%.⁸⁻¹⁰ Missing synchronous lesions may lead to increased cost for additional procedures or even make the initial endoscopic treatment meaningless, especially when the missed lesion is located more proximally, requiring gastrectomy. Therefore, meticulous endoscopic examination so as not to miss synchronous lesions is critical. Endoscopists sometimes perform repeated endoscopy before endoscopic resection not only to evaluate the confirmed lesion but also to

detect synchronous lesions missed at the initial endoscopy.

Synchronous multiple gastric carcinomas are known to be associated with older age and the degree of intestinal metaplasia in the background mucosa.¹¹ Studies have evaluated the features and risks of missed synchronous gastric lesions. Small lesion size, location of the lesion (body), and pathological diagnosis of the primary lesion (adenoma) were reported as risk factors.^{8,9,12-15} Although the optimal duration of endoscopic examination is still indefinite, the probability of detecting synchronous neoplasms was found to decrease by 6.9% as the duration of the examination decreased by 1 minute, and procedures that lasted more than 10 minutes detected synchronous lesions more frequently.⁹

In this issue of *Clinical Endoscopy*, Gong et al.¹⁶ reported the characteristics of missed gastric synchronous lesions based on the endoscopic images at the referring center, which were compared with images of repeated endoscopy before endoscopic resection. They evaluated 140 patients, of whom 12 (8.6%) showed 13 synchronous lesions, comprising 10 dysplasias (76.9%) and 3 adenocarcinomas (23.1%). Most synchronous lesions were located in the lower third of the stomach, and the median tumor size was 18 mm. When classifying these synchronous lesions into 3 groups based on a review of referred endoscopic images (group 1, no images of the location of simultaneous lesions; group 2, no corresponding lesion evident in the previous images; and group 3, simultaneous lesions found in the earlier images but without a biopsy), 7 lesions (53.8%) were classified as group 3, 5 (38.5%) as group 1, and the remaining (7.7%) as group 2. Meanwhile, no significant differences were found in the patients' and lesions'

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characteristics and procedure-related factors, including the procedure time in detecting synchronous lesions. Regarding the study results, the authors concluded that lesions disregarded or missed during endoscopy were the main reason for missing synchronous lesions and emphasized the importance of a meticulous and complete endoscopic evaluation to avoid overlooking gastric epithelial neoplasms. Although some limitations were already mentioned in their article and the conclusions from the study are not surprising, which seems almost natural, they presented evidence-based conclusions by analyzing their own experiences.

Missing synchronous gastric lesions can be attributed mainly to poor endoscopic skills or image qualities. However, this is not the only matter of concern for the initial endoscopist or referring center. The abnormality might be subtle and hardly noticeable at the time of initial examination. In addition, atrophic or metaplastic changes of the surrounding mucosa make the detection of the lesions difficult, especially when the lesion does not show apparent surface irregularities or color changes. Furthermore, the appearance of lesions constantly changes, even during the same examination. In these conditions where lesions are difficult to detect, careful observation with appropriate air insufflation and suction to reduce the possibility of missed lesions is the only option. In conclusion, as synchronous gastric lesions can be missed occasionally, even by expert endoscopists, meticulous examination of the entire stomach and awareness of potential blind spots is mandatory during the full endoscopic period. Repeated imaging of suspicious lesions with appropriate air control can help detect subtle changes.

Conflicts of Interest

The author has no financial conflicts of interest.

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