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PREDICTIVE FACTORS FOR HISTOLOGICAL DISCREPANCY BETWEEN ENDOSCOPIC BIOPSIES AND ENDOSCOPIC MUCOSAL RESECTION SPECIMENS IN BARRETT'S DYSPLASIA/EARLY NEOPLASIA

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Introduction Accurate diagnosis of high grade dysplasia (HGD) or early cancer (EC) is of paramount importance in the management of Barrett's oesophagus. Endoscopic biopsies are the standard method for the diagnosis of HGD/EC but discrepancies have been reported between biopsies and endoscopic mucosal resection (EMR) specimens. The aim of this study was to investigate the predictive factors for histological discrepancy between endoscopic biopsies and EMR specimens.

Methods Prospectively collected data on all EMRs performed for Barrett's HGD or EC in our institution over a 4-year period were analyzed. Histology of pre-resection biopsies and EMR specimens was retrieved from pathology records. Cases with diagnostic discrepancies between biopsies and EMRs were compared with those without discrepancies. Multivariate linear regression analysis was used with size of lesion, endoscopic morphology, length of Barrett's, number of targeted biopsies, age and sex of patients as predictive factors.

Results 59 lesions from 57 patients (43 men, mean age: 67 ± 11.2) who underwent EMR were studied. Mean length of Barrett's was 5.2 ± 3.4 cm (range 1–13) and the mean size of lesions was 15.5 ± 4.9 mm (range 7–30 mm). Elevated (Paris 0-Is or 0-IIa) lesions were observed in 31 (52.5%) and flat/depressed lesions (0-IIb or 0-IIc) in 28 (47.5%) of cases. The mean number of pre-resection targeted biopsies was 3.1 ± 1.01 (range 1–5). The 'band and snare' mucosectomy technique was used in 46 (78%) and the cap-assisted technique in 13 (22%) EMR cases. Post-EMR histological diagnosis was HGD in 22 (37.3%) and carcinoma in 37 (62.7%) cases. The histological discrepancy rate was 44% (26/59). EMR upgraded the histological diagnosis in 22 (37.3%) cases and downgraded it in 4 (6.8%) resections. On multivariate linear regression analysis, <3 targeted biopsies per lesion was the only independent predictive factor ($p = 0.03$) and was associated with 3.3-fold

increase in histological discrepancy (OR = 3.3, 95% CI 1.1 to 9.9). Size of lesion, endoscopic morphology, length of Barrett's, age and sex had no statistically significant effect.

Conclusion Obtaining 3 or more targeted biopsies per lesion improves the histological correlation between endoscopic biopsies and EMR specimens in patients with Barrett's early neoplasia.

Competing interests None.

Keywords Barrett's oesophagus, endoscopic mucosal resection, histology.