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Predictive Factors and Surgical Impact of Colonoscopy Accuracy for Localization of Colorectal Malignancy

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Abstract

Background: Colonoscopy is currently the gold-standard for the detection of colorectal lesions, but its accuracy in tumor localization is limited. This study aims to determine the accuracy of colonoscopy in localization of colorectal malignancy, identify possible influencing factors and evaluate the surgical consequences of an incorrect preoperative localization.

Methods: A retrospective cross-sectional study of all patients with colorectal malignant lesions diagnosed by colonoscopy who underwent subsequent resection surgery between January 2019 and December 2020 was performed. Colonoscopy accuracy was evaluated in terms of correspondence between endoscopic and intra-operative tumor localization.

Results: A total of 115 patients were included, mostly males (63.5%), with mean age of 68.7 years. There was concordance between endoscopic and intra-operative localization in 76 cases, which corresponds to an accuracy of 66.1%. Colonoscopy completeness (p=0.008) and adequate bowel preparation (p=0.023) were significantly associated with greater concordance between endoscopic and intra-operative tumor location. Of the 39 incorrectly localized lesions, 19 (48.7%) required changes in surgical management.

Conclusion: Colonoscopy is often inaccurate for localizing malignant colorectal lesions, which may frequently result in intra-operative changes in surgical strategy. Colonoscopy completeness and adequate bowel preparation were significant predictors for a correct endoscopic localization, underscoring the importance of colonoscopy quality for this particular indication.

Key words: colonoscopy, colonoscopy accuracy, colonoscopy quality, colorectal malignancy, colorectal surgery