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COLON AND RECTAL SURGERY

Intraoperative Anastomotic Evaluation Methods: Rigid Proctosigmoidoscopy is Associated with Increased Risk of Anastomotic Leak Compared to Flexible Endoscopy

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INTRODUCTION: Intraoperative evaluation of colorectal anastomoses via rigid proctosigmoidoscopy (RP) is considered the gold standard. However, we hypothesize that direct endoscopic visualization via flexible sigmoidoscopy (FS) leads to better anastomotic inspection. The aim of this study is to compare RP vs. FS in the prevention of anastomotic complications.

METHODS: The 2012-2017 American College of Surgeons National Surgical Quality Improvement Program Procedure-Targeted Colectomy database was queried for patients undergoing rectal anastomoses. Anastomotic evaluation method was identified by CPT coding with only RP or FS patients included. Patients were stratified based on evaluating method (RP vs. FS). Multivariable logistic regression for predicting anastomotic leak was performed.

RESULTS: 6,052 patients underwent bowel resection with colorectal or ileorectal anastomoses. RP was utilized in 2,949 (48.7%) and FS in 3,103 (51.3%) patients. RP was used more commonly in diverticulitis cases (43.2% vs. 33.5%, $p < 0.001$), while FS was used more frequently in malignancy cases (46% vs. 35.7%, $p < 0.001$). Compared to FS, RP was associated with higher rates of organ space infection after surgery (5.2% vs. 4.0%, $p = 0.02$) and increased rates of anastomotic leak (4.3% vs. 3.2%, $p = 0.03$). After multivariate logistic regression modeling, RP anastomotic assessment was associated with a higher risk of anastomotic leak (OR 1.65, 95% CI, 1.05-2.06, $p = 0.03$), compared to FS.

CONCLUSION: Compared to flexible sigmoidoscopy, rigid proctosigmoidoscopy evaluation of a rectal anastomosis was associated with increased risk of postoperative anastomotic leak and organ space infection. In the era of high definition endoscopy, the utility of rigid proctosigmoidoscopy for anastomotic inspection appears questionable.