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Rectal Retroflexion during Colonoscopy: A Bridge over Troubled Water

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See "Diagnostic Yield and Therapeutic Impact of Rectal Retroflexion: A Prospective, Single-Blind Study Conducted in Three Centers" by Félix Téllez-Ávila, Josué Barahona-Garrido, Sandra García-Osogobio, et al., on page 79-83

Rectal retroflexion (RR) is performed after initial examination in the forward view to observe the entire rectum at the end of the colonoscopy. The endoscope shaft is positioned with most or all of the bending section just inside the anus, by which the endoscope tip achieves maximum retroflexion by flexing in both an up or down direction and a right or left direction simultaneously. This advantage makes retroflexion a better visualization technique than the traditional forward antegrade viewing, for which RR does not take a long time and does not add any cost. The mean time taken to successfully complete the RR maneuver seems to be approximately 10 to 20 seconds.¹ The first study evaluating the utility of RR in rectum examination was by Grobe et al.² in 1982. It proved to be a useful adjunct to the standard forward view of the rectum in the evaluation of internal hemorrhoids and in the detection of small perirectal polyps, inflammatory bowel disease in the anus or rectum, and anal cancers.²

In detail, RR increases the detection of flat adenomas, including invasive cancer, that can be missed with antegrade viewing.^{1,3-6} It showed how easily an early-stage cancer in a diminutive colonic polyp can be missed when in difficult areas of straight view.³ However, there stands a controversy that RR has a low yield for adenoma detection, causing the risks to surpass the benefits.^{7,8} For instance, Quallick and Brown⁹ reported four cases of rectal perforation in the rectum during RR. Rectal perforation occurs at a rate of 1.02 per 10,000 RR proce-

dures, and even if the perforation rate is relatively low, those who perform RR should always be cautious of these rare, unexpected risks of perforation or anal tearing/bleeding during colonoscopy. The endoscope tip should not be deflected when resistance to tip deflection is apparent or when resistance to advancement and torque is felt. If the rectal lumen is very narrow, RR may not be feasible with every trial. RR should be immediately terminated if any resistance occurs during retroflexion.⁹ Therefore, RR should be performed on a lumen with a fully inflated state after insufflating sufficient air into the rectal lumen.

The utility of RR for the aforementioned dual purpose is controversial because of varying advocated² or questioned opinions.⁷ Varadarajulu and Ramsey¹ found that RR increased rectal polyp detection rates by 53.2%, affording significant additional information compared with the standard forward view of the rectum, and Saad and Rex⁸ reported similarly that RR increased rectal polyp detection rates by 17%. In their study, RR increased rectal adenomatous polyp detection rates by 3%.⁸ Meanwhile, because retroflexion has risks and may cause discomfort, routine retroflexion should be used at the discretion of the endoscopist.⁸ Cutler and Pop⁷ reported that RR did not produce additional information, insisting that endoscopists who do not perform RR in their patients should ensure confidence that no pathologies were missed. Taken together, considering that colonoscopy is conventionally used in the diagnosis and removal of premalignant lesions, as well as early colorectal cancer, a recent report¹⁰ recommends that RR be frequently used to avoid missing anorectal adenomas and cancers; on the contrary, the most common reason endoscopists do not perform RR is their personal experience that it does not increase adenoma or cancer detection rates.

In this issue of *Clinical Endoscopy*, Téllez-Ávila et al.¹¹ con-

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ducted a prospective single-blind study in three centers to evaluate the diagnostic yield and therapeutic impact of RR compared with those of either digital rectal exploration or the straight view. They evaluated the therapeutic impact and diagnostic yield of RR during colonoscopy to elucidate whether RR can serve as a bridge over troubled water. RR was successful in 917 of 934 cases (98.2%), and 32 patients (3.4%) had distinct lesions in the anorectal area, of which 10 (1%) were identified only on retroflexion. There were three cases of hyperplastic polyp, three cases of tubular adenoma, one case of tubulovillous adenoma, two cases of angiodysplasia, and one case of flat lesion that benefited from RR. An additional therapeutic benefit was feasible with RR. The authors concluded that RR had little diagnostic yield and therapeutic impact in their cases.

In the present study, RR was a bridge over troubled water because its application was associated with low rates of major complications while detecting lesions that might not have been seen by straight viewing. In conclusion, we recommend performing RR after straight view examination of the anorectal area and suggest the additional feasibility of the therapeutic approach. With further advancement of endoscopic instrumentation, the possibility of perforation can be further evaluated. However, endoscopists should be alert that there might be a possibility of a booby trap even looking easy.

Conflicts of Interest

The authors have no financial conflicts of interest.

REFERENCES

1. Varadarajulu S, Ramsey WH. Utility of retroflexion in lower gastrointestinal endoscopy. *J Clin Gastroenterol* 2001;32:235-237.
2. Grobe JL, Kozarek RA, Sanowski RA. Colonoscopic retroflexion in the evaluation of rectal disease. *Am J Gastroenterol* 1982;77:856-858.
3. Cappell MS, Batke M. Invasive cancer in a diminutive rectal polyp amidst internal hemorrhoids detected by rectal retroflexion. *South Med J* 2010;103:943-946.
4. Esber EJ, Yang P. Retroflexion of the sigmoidoscope for the detection of rectal cancer. *Am Fam Physician* 1995;51:1709-1711.
5. Hanson JM, Atkin WS, Cunliffe WJ, et al. Rectal retroflexion: an essential part of lower gastrointestinal endoscopic examination. *Dis Colon Rectum* 2001;44:1706-1708.
6. Reddy AB, Palardy LG, Reddy KB. The utility of rectal retroflexion. *Am J Gastroenterol* 2011;106:1008-1011.
7. Cutler AF, Pop A. Fifteen years later: colonoscopic retroflexion revisited. *Am J Gastroenterol* 1999;94:1537-1538.
8. Saad A, Rex DK. Routine rectal retroflexion during colonoscopy has a low yield for neoplasia. *World J Gastroenterol* 2008;14:6503-6505.
9. Quallick MR, Brown WR. Rectal perforation during colonoscopic retroflexion: a large, prospective experience in an academic center. *Gastrointest Endosc* 2009;69:960-963.
10. Mattar WE, Kumar AS, Olden KW. Perspective on routine rectal retroflexion during screening colonoscopy: a survey of American gastroenterologists. *J Gastrointest Liver Dis* 2011;20:102-103.
11. Téllez-Ávila F, Barahona-Garrido J, García-Osogobio S, et al. Diagnostic yield and therapeutic impact of rectal retroflexion: a prospective, single-blind study conducted in three centers. *Clin Endosc* 2014;47:79-83.