

Does Digital Rectal Examination Predict Hospital Admission and Resource Utilization Rate in Patients with Acute Gastrointestinal Bleeding with Bright Red Blood Per Rectum?



To the Editor:

We would like to commend Shrestha et al¹ for approaching this important issue regarding the digital rectal examination and its value for predicting hospital outcomes in patients with acute gastrointestinal bleeding. Evidence of omitted parts of the physical examination, together with their consequences, have been described previously,² with additional evidence that digital rectal examination is not universally performed in the initial setting of acute gastrointestinal bleed,^{3,4} making this study significant in emphasizing the importance of physical examination. However, we would like to point out statistical considerations in regard to the design of the study.

Shrestha et al clearly demonstrated that there is a statistically significant discrepancy between the proportion of patients who presented with bright red blood per rectum (BRBPR) among digital rectal examination and non-digital rectal examination groups: 29.1% among the non-digital rectal examination group had BRBPR, whereas among the digital rectal examination group BRBPR was up to 3 times less common (9.3%). It is obvious that presence of BRBPR can potentially affect whether the physician will perform the digital rectal examination in the first place. The number of patients with BRBPR constituted a significant portion of patients in this study (n = 224; 18.1%). Furthermore, the univariate analysis (Table 3 in Shrestha et al)¹ did not mention the effect of BRBPR on predicting digital rectal examination. Of note, multivariate analysis included up to 33

explanatory variables while excluding BRBPR (Table 4 in Shrestha et al),¹ potentially leading to overfitting and rendering multivariate regression not the most suitable analysis for correcting for all these confounders (goodness of fit and area under the curve were not reported). It is likely then that the presence of BRBPR could preclude the digital rectal examination from being performed, because BRBPR is more likely to be associated with hemodynamic instability and overall severity³ and thus a higher propensity for admission, endoscopy, and medical treatment.

As this was not a randomized prospective study, and given the number of BRBPR patients, such serious confounding should have been addressed by at least including it in the multivariate analysis, or by exact-matching the patients between BRBPR and non-BRBPR groups, or by propensity score matching for BRBPR patients followed by the multivariable regression. A post hoc regression analysis repeated among the BRBPR subgroup would also be interesting, to determine whether digital rectal examination can still independently predict hospital admission and endoscopy use. We therefore advise that the odds ratios in the conclusion of this study¹ are at best interpreted with caution, while appreciating the importance in performing digital rectal examination in all patients with gastrointestinal bleeds.

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