Letters to the Editor

Comment on Variability in Synoptic Reporting of Colorectal Cancer pT4a Category and Lymphovascular Invasion: The Clinical Significance of Differences Within the pT4 Colon Cancer Category

To the Editor.—We read with interest the original article by Naso et al1 on “Variability in Synoptic Reporting of Colorectal Cancer pT4a Category and Lymphovascular Invasion” recently published in Archives of Pathology & Laboratory Medicine. The diagnosis of pT3 versus pT4a stage colorectal cancer was investigated at both laboratory and pathologist level (852 cases). They also performed an online survey to assess the interobserver agreement in diagnosing pT3 versus pT4a category (among 50 pathologists who analyzed a median of 15 cases). The authors claim that this was the first such study but were apparently not aware of a similar study from our group that was published in Virchows Archiv online in October 2019.2 In an interlaboratory comparison of 7775 pT3 or pT4a N0-M0 colon cancer cases from 33 laboratories, we showed that 8 laboratories (24%) significantly differed in the frequency of diagnosing pT4a as compared with the median laboratory after adjusting for case mix. This percentage was similar in the study of Naso et al,3 where 2 of 11 hospitals (18%) significantly differed from the hospital with the median odds ratio. In our interobserver analysis (66 cases, 12 pathologists) we demonstrated moderate interobserver agreement in diagnosing pT3 versus pT4a with a Cohen κ of 0.50, which was also very similar to the findings of Naso et al3 with Cohen κ value of 0.47. Interestingly, the Cohen κ value did not improve (0.51) after Naso et al3 supplied the participating pathologists with information from guidelines. This implies that current guidelines on the topic lack clarity and allow for interpretation variability. In addition to interlaboratory and interobserver variability we also assessed intraobserver variability in diagnosing pT4a by reevaluation of the slides by the same observers in a different order. We found a median κ value of 0.71 for the intraobserver analysis, which translated into a change of diagnosis in 3% to 30% of cases. Issues mentioned by the participating pathologists were mostly definition related, leaving room for subjectivity and variable interpretation when distinguishing pT3 from pT4a stage. In concordance with Naso et al,1 we concluded that a substantial variability in diagnosing pT4a colon cancer exists. More recently a third study on the pT3-pT4a interobserver variability was published in American Journal of Surgical Pathology,3 where the Fleiss κ value varied from 0.21 to 0.57 depending on the morphologic category and subspecialty. All 3 studies highlight the need of standardizing the diagnostic criteria when differentiating pT3 from pT4a colorectal cancer, considering the potential therapeutic and prognostic implications.

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In Reply.—We thank the authors of this letter for bringing to our attention their well-considered paper, which became available in press after we had completed our study and drafted our manuscript. Although our studies differ in design (for instance, we assessed interpathologist variability using real-case synoptic data in addition to a survey-based approach, we assessed lymphovascular invasion reporting in addition to the reporting of pT3 versus pT4a stage, and our synoptic data elements were based on the College of American Pathologists Cancer Protocol Template1 rather than the Dutch Pathology Registry), our studies both demonstrate the existence of considerable variability in pT4a staging. We agree entirely that widely accepted, standardized diagnostic criteria for pT3 versus pT4a staging are needed and appreciate the value of the aforementioned study in highlighting this need.

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