

Comment:

Thank you for inviting me to review "Analysis of ANA Patterns Distribution and Correlation in Patients With Colorectal Cancer" by Liang et al. This study is an interesting study on the distribution and correlation analysis of ANA types in patients with colorectal cancer. The authors further explored the potential of ANA for colorectal cancer screening by analyzing the correlation between ANA and colorectal cancer. Overall, the study was well designed and the results were highly significant. We recommend acceptance of this study with minor modifications.

1. The abstract fully summarizes the objectives, methods, results, and conclusions of this study, but does not provide the background on the relationship between ANA and colorectal cancer. Please summarize and elaborate on this.
2. The sentence "To detect the fluorescent patterns distribution of antinuclear antibody...; To preliminarily investigate the correlation between ANA...of CRC screening" is too long and includes multiple objectives, making it difficult to read. Please revise the sentence structure to significantly improve the rigor and readability of the text.
3. The results in the

abstract are too long; please simplify the sentences appropriately. 4. How is the specific data supporting the statement "Only the colorectal cancer primary diagnosed group expressed high titer"? 5. The authors introduce the background of colorectal cancer, the relationship between ANA and colorectal cancer, and the key parameters (fluorescence pattern) for detecting ANA results. The clinical value of ANA testing lies in its titer (concentration/quantity) and fluorescence pattern. The purpose of this study is logically stated. However, the background on the current relationship between ANA and colorectal cancer is limited, and additional information is recommended. 6. The authors have detailed the inclusion and exclusion criteria and the experimental methods, but please confirm that the formatting of the numbers "①②③" is correct. 7 For Table 4, supplement with 1:100, 1:320, and 1:1000.

Corresponding reply:

1. We have provided the background as "Extensive research indicates that tumor patients harbor multiple autoantibodies targeting tumor-associated antigens. Furthermore, antinuclear antibodies (ANA) constitute a

clinically distinct group of autoantibodies widely distributed in the cell nucleus, cytoplasm, and cytoskeleton. Recent studies reveal that ANA are closely associated with the development and progression of various malignancies, including the pathogenesis of colorectal cancer.” .

2. We have modified the sentences as “ To detect antinuclear antibody (ANA) fluorescence patterns in colorectal cancer (CRC) using indirect Immunofluorescence and investigate their correlation with CRC” .

3. We have simplified the results of the abstract as “The ANA positivity expression of patients with primary diagnosed colorectal cancer, patients with colorectal polyps and healthy control group were 50.00%, 46.51% and 6.90%. Compared with the healthy control group, there was a significant difference ($P < 0.05$). Most of the fluorescence patterns of patients in the colorectal cancer primary diagnosed group were nuclear speckled (15.79%) and cytoplasmic speckled (15.79%). The titers were predominantly low-titer positivity of 1:100 (28.95%). While the fluorescence patterns of patients in the colorectal polyp group were most nuclear speckled (18.60%),

followed by nuclear homogeneous (11.63%), and the titers were predominantly low-titer 1:100 positive (37.21%). The proportions of intermediate titers differed significantly from each other ($P < 0.05$). Only the colorectal cancer primary diagnosed group expressed high titer” .

4. Corrected wording and improved the text throughout the article.

5. Provided more information on the relationship between ANA and CRC.

6. Corrected the formatting of figures.

7. Added "1:100, 1:320, and 1:1000" to Table 4.