

Reviewer #1:

Specific Comments to Authors: In this case report, authors presented an early gastric cancer associated with serrated polyposis syndrome. Total genome DNA was extracted from the patient's blood and five gastric cancer-associated variants were identified. This is a well-written paper containing interesting results which merit publication. For the benefit of the reader, however, a number of points need clarifying and certain statements require further justification. These are given below.

1. Authors should validate how these five molecules involved the gastric cancer using resected specimen.

Response: We are very grateful to your comments for the manuscript. In this case, we aimed to report a rare case that presented both SPS and early gastric cancer, and five gastric cancer-associated variants were identified by exome sequencing. Due to the limited volume of specimen obtained from endoscopic surgery, it is hard to perform verification experiments of the five molecules using this patient's resected specimen. However, the experimental validation you mentioned is of great significance. Therefore, we stressed the importance of further validations using clinical specimen in the discussion part and we have begun to collect specimen for the next experiments. Once again, thank you so much.

2. Authors should show if *Helicobacter pylori* (HP) was positive or not in this case to exclude HP infection-related gastric cancer.

Response: We sincerely thanks for your guidance and totally agree with your opinion. The condition of HP infection is essential for the diagnose of gastric cancer. We have added the definite diagnosis of HP absence in the case presentation part, to exclude the possibility of HP infection-related gastric cancer.

Reviewer #2:

Specific Comments to Authors: The study reported that a case of serrated polyposis syndrome (SPS) complicated with gastric cancer. In this study, exon sequencing method was used to confirm the existence of gene mutation in this case, and it is speculated that it has a potential role in the pathogenesis, which has certain clinical significance. However, still has some shortcomings:

1. In the background part of the paper, the relevant literature should be fully quoted, the genetic background of SPS should be emphasized, and the necessity significance of exon sequencing should be highlighted.

Response: Thank you for pointing out our negligence in background part. We have added relevant literatures to support the background information (References 1 to 3). After reviewing the background of SPS, we emphasized the essentiality to identify disease-causing genes. Then we added some statements to clarify the advantages of exome sequencing approach and the necessity for this case.

2. The discussion section should elaborate on the functional mechanisms associated with the identified mutated genes.

Response: In the revised discussion part, we added some new contents. The functional mechanisms associated with the identified mutated genes were introduced one by one. Related references have also been supplemented. These introductions, we hope, could bring

beneficial inspiration to further research. Thanks for your suggestion and it have improved our manuscript greatly.

3. In this study, although mutation sites were found and functional prediction was made, functional experiments were not carried out for further verification. Secondly, the study sample was small and no normal control group was set, therefore, more work is needed to clarify the role of gene mutations in SPS.

Response: Thank you for your advices and we totally agree with your opinions. In this case report, we aimed to report a rare but significant case and tried to preliminarily explore the molecular mechanisms of this condition. We expected that the findings in this case could give a slight inspiration for further study. Experimental verification is very important, as you said in your review, so we have began collecting specimens of such patients. More in-depth functional experiments will be performed in the next step. As you suggested, normal control group will be set to make experimental results more reliable.