

Point-by-point responses to reviewers

Dear reviewers,

Thanks for your hard work in reviewing our manuscript. We read with great caution to all your kinds comments. Our point-by-point responses to all comments are as following:

Reviewer #1:

1. The authors should conduct systematic search of the literature and consequently should describe the number of databases searched and the results of the search. In Hepatobiliary section there are published prospective studies about the use of magnets please refer to them and make the adequate comments.

(Magnetic surgery Results from first prospective trial in 50 patients. Ann Surg 2018;88-93)

Response: We read with caution about the paper entitled “Magnetic surgery Results from first prospective trial in 50 patients”, and we found that the paper is not at the scope of our review since only surgical applications of magnets are involved. As we mentioned in the second paragraph of Introduction, surgical applications of magnets have been reviewed recently (reference 5) and Levita device have been included in that review, so we would not like to refer to such paper and make any comments in the present review.

Reviewer #2:

1. This is a review about endoscopic applications of magnets for the treatment of GI diseases. The subject of the review is very exciting and I have read this paper with interesting. Unfortunately, the available data in the literature is very poor and do not allow a high-quality review.

Response: The purpose of our minireview is to inspire other clinicians to recognize the magnetic technique and to participate in this field. Thus, our presentation in this review should be valuable since it includes almost all studies and reports involving endoscopic applications of magnets and magnetic devices.

2. In my opinion, you should include more pictures to better explain the techniques.

Response: Thanks for your kind suggestions. We add several figures and revised figure legend as you mentioned (see below).

3. I liked the introduction. It is short and clear. I think you should discuss more about the mechanism of action of the magnets, and discuss why this device is usually related to stenosis after treatment, especially in esophageal diseases.

Response:

(1) We add a short description of the mechanism of action of the magnets in the Introduction.

(2) Stenosis after magnetic compression anastomosis can be mainly attributed to the use of small magnets, not just in the esophagus. Conventional methods for stenosis include dilation and stent placement, which are effective in most situation. To deal with this events, self-resembling magnets have been developed recently, but there are no reports in treating esophageal diseases so far. We have added additional comments in the use of magnetic anastomosis for esophageal atresia.

4. Additionally, you should explain in detail how to place the device in different locations and diseases.

Response: We have tried our best to explain the process of device placement in detail, as shown in the text and the figures.

5. There are limited data on human case. Please try to add all the in human cases reported in the literature, including conferences abstracts.

Response: We have tried our best to add all the in human cases reported in the literature, but may not describe all of them in detail because some of them have been described in recent review (Reference 5).

6. Figure 5 is not clear and do not explain exactly how to perform the technique. Please add pictures better pictures of the MAG-

ESD and MBA-ESD.

Response: We have revised the figure to show the whole process of MBA-ESD in treating a lesion in ascending colon. The application diagrams of MAG-ESD has been also added in the revised manuscript.

7. Please add pictures regarding the use of magnets during NOTES procedure.

Response: We add a figure to show one of those NOTES procedures: transvaginal endoscopic cholecystectomy in a porcine model.

8. Please correct: Figure 5 shows our applications of a ring-shaped magnet for removing many foreign bodies TO FIGURE 6.

Response: We are so sorry for such mistake, and we have revised it in the manuscript.

9. An external magnet can also be applied to remove endoscopically placed ferromagnetic pancreaticobiliary stents [89, 90], which obviates the requirement for a second endoscopy for stent removal. Please add pictures to better explain this technique.

Response: We add another figure to explain this technique, which was reported by Ryou et al. in 2012.

10. Conclusion: Their use expands the indications of therapeutic endoscopy and makes it easier and safer to perform difficult procedures. There is no data to support this paragraph in the conclusion.

Response: Just like treatment of esophageal atresia, surgery is commonly used before magnetic compression anastomosis; thus, we think magnets expand the indication of therapeutic endoscopy. In addition, our study has shown that MBA-ESD makes difficult colorectal ESD easier and safer, so we make such conclusion. We may delete this sentence if the reviewer still holds the idea that such evidence is not enough.