



PEER-REVIEW REPORT

Name of journal: *World Journal of Gastroenterology*

Manuscript NO: 78769

Title: Esophageal magnetic compression anastomosis in dogs

Provenance and peer review: Unsolicited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 06314309

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: Egypt

Author's Country/Territory: China

Manuscript submission date: 2022-07-14

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-07-14 12:55

Reviewer performed review: 2022-07-23 09:19

Review time: 8 Days and 20 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Peer-reviewer	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous



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statements

Conflicts-of-Interest: [] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

Dear editor, Thanks very much for giving me such opportunity to revise the current version of the manuscript. This is an interesting paper regarding the use of esophageal magnetic compression anastomosis in dogs.



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Manuscript NO: 78769

Title: Esophageal magnetic compression anastomosis in dogs

Provenance and peer review: Unsolicited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 04898871

Position: Peer Reviewer

Academic degree: MD, PhD

Professional title: Surgeon, Surgical Oncologist

Reviewer's Country/Territory: Spain

Author's Country/Territory: China

Manuscript submission date: 2022-07-14

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-07-16 14:41

Reviewer performed review: 2022-07-25 21:38

Review time: 9 Days and 6 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
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Conflicts-of-Interest: [] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

Firstly I would like to congratulate you by the high quality of the submitted paper. The methodology is excellent and the information provided has a very high potential clinical relevance. Its contribution to the international scientific literature will be very important because it is an important and poorly treated healthy problem. Maybe I would like you to develop more deeply some aspects in your paper. In the following sections, aspects I consider modifiable or revisable of the submitted manuscript will be highlighted. Related to the ABSTRACT, I think very important information lacks in its current version: • In the aim I suggest modify it to: "Prior To study the feasibility and safety of MCA in humans, we tested MCA technology to reconstruct the esophagus in dogs." • In the methods authors must reflect if hand-sewn anastomoses are performed with monofilament, Multifilament, Single or multiple layers and the suture material. The last sentence is also badly explained: animal weight is analysed only at one month and with the sentence it seems it is evaluated at 1, 3 and 6 months postoperatively. • Results: Please add the values (E.G medium+/-SD) and if the difference in anastomoses confection time and in animal weights at one month are statistically significant. Related to X-ray examination it must be explained if are performed for both groups, day of the examination and if there is any differences between the groups. In the histological evaluation authors must explain than these differences appear only at one month and if it is significant. How were those aspects evaluated (morphometric analyses?) • Conclusion: "After the operation, the recovery of the MCA group was faster and better than that of the hand-sewn group". This can not be concluded with the information provided in the abstract and maybe neither with the whole document (no differences in morbidity and mortality between experimental groups). I suggest to rewrite the last



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sentence to be more cautious: "This study shows that MAYBE MCA technology can be applied to human esophageal reconstruction PROVIDED THIS FAVOURABLE RESULTS ARE CONFIRMED BY MORE PUBLICATIONS." • The last commentary about the results section and the first about the conclusion section applies also for the CORE TIP. In the INTRODUCTION section, we can mention: • When authors mention published studies in other fields with MCA (gastrointestinal anastomosis, jejunal, cholangioenteric, etc.) it could be better to mention briefly the number of treated patients and the most relevant outcomes from those mentioned publications. • In the last paragraph, line 2, I think it could be better to write "MCA COULD be a superior" than "MCA will be a superior". • When they speak about "clinical reports on esophageal reconstruction using MCA", similarly I think it could be better to mention the number of treated patients in each report and the main results. • Then, they mention the patients treated by them; some of the publications are with patients, I think authors could explain how many animals and humans have been treated in their published research and the main outcomes in a few lines. • Maybe it could be useful also to provide the quality of evidence of the published literature (are only case reports or clinical series? Is there any comparative study?). • Nearly at the end, they mention "there is a lack of research data and animal studies". In fact, "lack of" is not the best word, maybe "paucity of published" or similar is better to explain, as examples two publications provided also in references list treat patients with atresia: o Zaritzky M, Ben R, Johnston K. Magnetic gastrointestinal anastomosis in pediatric patients. *J Pediatr Surg.* 2014 Jul;49(7):1131-7. doi: 10.1016/j.jpedsurg.2013.11.002. Epub 2013 Nov 7. PMID: 24952802. o Slater BJ, Borobia P, Lovvorn HN, Raees MA, Bass KD, Almond S, Hoover JD, Kumar T, Zaritzky M. Use of Magnets as a Minimally Invasive Approach for Anastomosis in Esophageal Atresia: Long-Term Outcomes. *J Laparoendosc Adv Surg Tech A.* 2019 Oct;29(10):1202-1206. doi: 10.1089/lap.2019.0199. Epub 2019 Sep 16. PMID: 31524560.



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Talking about the METHODOLOGY: • Why did the authors selected to use dogs? Which breed are the dogs employed? There are no accepted atresia animal model? Some publications refers to another models: “These include pig, rabbit, and rat. In our experience, we found the pig to be an optimal model due to the ease of handling, anatomic similarity to humans, and downward facing snout to reduce aspiration risk. [[Bruns NE, Glenn IC, Ponsky TA. Esophageal Atresia: State of the Art in Translating Experimental Research to the Bedside. Eur J Pediatr Surg. 2019 Aug;29(4):328-335. doi: 10.1055/s-0039-1693992. Epub 2019 Aug 19. PMID: 31426114.]] • Newly when they describe in surgical procedure “with 4-0 absorbable sutures”, they must provide the following information: suture material, Monofilament? Multifilament? Single or multiple layer anastomoses? • Question: was any surgical drain left in place? • At what day was the control X-Ray for MCA group performed? • Why the postoperative management was different between groups? Contro group has 7 days fasting... This may be a source of bias to compare both groups... • Both groups received antibiotics? Which antibiotics? • I suggest adding the word Thrichrome to Masson dye. • In statistical analyses, authors perform parametric studies. With 18 animals per group... Did authors performed a test of normality to be able to employ parametric testing? In the RESULTS SECTION: • Concerning X-ray examinations... There were any leakage in any group? Later one fistula is described... How was it diagnosed? Only X-ray or was it clinical? At what postoperative day? • The units of the weight (I suppose kg) are not specified. Is this difference in weights between groups statistically significant? If so, p value must be added. • Final line of “gross appearance”. Concerning the term “smoother”, How was this evaluation made? If it is subjective it must be mentioned... • Was the difference in inflammatory cells number at 1 month significant statistically? In the DISCUSSION SECTION, there are some aspects to be commented deeply: • When authors hypothesize “Based on the results of the experiment, we suggest that patients should consume a



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liquid diet or a semiliquid diet for at least one month”, they refer to both groups or only to MCA patients? • “Second, the silk thread or absorbable thread will exist”... The suture material could play an important role... Silk is a non absorbable material and braided sutures are more prone to infection than monofilament sutures... these aspects must be mentioned in the discussion section. • Concerning the commentaries about the difference in weight between groups at 1 month, The animals in hand-sewn group were maintained fasting during a week, this could be a confounding factor and must be mentioned... • “Therefore, the dogs in the MCA group could feed earlier than those in the hand-sewn group” This could be discussed. Maybe when the mucosal tissue covers the anastomotic sutures it is not important than the suture stay in place in the external layers (eg muscular)... If so, when surgeon employ silk or other non absorbable material employed sometimes in esophageal surgery patients would have a more prolonged period with eating problems... • Limitations of the study must be presented. Strengths and weakness of the study and the model. The possibility of a bias produced by the different postoperative management of both groups. This is a model of esophageal anastomosis, and not of anastomosis in the setting of an atresia, with the possibility of loss of esophageal tissue, etc. In the CONCLUSION SECTION, I think the writing must be more cautious and suggest some modifications: • MCA is an effective and safe method for esophageal reconstruction IN DOGS. The anastomosis with MCA is faster than the hand-sewn anastomosis. Postoperatively, SOME ASPECTS OF the recovery of the MCA group WERE faster and better than that of the hand-sewn group. We provide some INFORMATION USEFUL for THE FUTURE clinical application OF THE DEVICE IN SELECTED CASES. FIGURE 1 LEGEND: In the letter C I suggest to add “the dispositive allows food passage” and in D “and the esophagus LUMEN is COMPLETELY open”. FIGURE 4: I think there is a mistake in the fifth line of the legend; The anastomotic tissue of the hand-sewn (instead of MCA) group at 1 month, 3 months



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and 6 months. (D E F). FIGURE 5: if the difference in the number of inflammatory cells at 1 month is significant it could be reflected also in figure 5 legend. Newly I would like to congratulate authors for their work. Keep working in this field and keep trying to publish the results of your research.