Peer Review File

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Reviewer A

This is a retrospective study comparing the accuracy of endoscopy and a barium meal in the detection of PEH with the standard being operative findings. Both endoscopy and barium meal were found to be unreliable for type of hiatal hernia with sensitivities of 8.33% and 38.68%, respectively. Similarly, for the detection of volvulus sensitivities were 10.7% and 20.5%, respectively. The authors make a good point that there is poor standardization of reporting HH characteristics in BM and even more so in endoscopy. Comments

1. The conclusions comparing BM to endoscopy are a bit strong considering the retrospective nature of the study, generally poor quality of the endoscopy, and unspecified interval between the endoscopy and the surgery.

Reply 1: The lack of accuracy contributes to the poor quality of endoscopy. Giant hiatus hernia is of uncertain progression measured in years and poorly documented. Therefore period was specified as less than three years. Conclusion has been amended accordingly.
Changes in the text: Line 59-62 page 1 abstract of new copy

2. Not all symptomatic PEH require surgery as stated in the abstract- it depends somewhat on what specific symptoms are being experienced.

Reply 2: The text and conclusion have been amended.
Changes in the text: Line 59-62 page 1 abstract of new copy

3. Delete the word prospective in the abstract methods section. This was a retrospective study.

Reply 3: Deleted

4. I am confused by the final sentence of the abstract, "Barium meal appeared the most reliable diagnostic test for large hiatus hernia"? Both tests were poor for detecting PEH and both were good for HH.
Reply 4: I have clarified this sentence.
Changes in the text: Line 60-62 page 1 abstract of new copy

5. When were the BM and endoscopy done relative to the surgeries? It says up to 3 yrs prior for endoscopy, give the span. 3 yrs is a long time.

Reply 5: As addressed in reply 1. In addition, the BM/endoscopy timeframe varied significantly between few weeks to 3 years. As this study examined the diagnostic accuracy prior to referral for surgery this was felt appropriate. Large hiatus hernia

takes decades to develop and three years is a short time in such a prodrome.

6. The discussion is too long and way beyond the scope of the data.

Reply 6: Thank you, discussions of reasons for surgery have been removed and paper is now focused on diagnostic efficacy.
Changes in the text: Multiple paragraphs have been amended and re-structured, deleted– please see 'Discussion' section.

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Reviewer B

This retrospective study highlights the need for accurate diagnosis of all types of hiatal hernia. The authors did a good job showing the discrepancies and inconsistencies in reporting of EGD and BM.

To achieve this purpose of this article, the authors should introduce the reader to standardized reporting such as Hill's grade, axial and transverse measurement of hiatal hernia, etc.

Line	issue
27	Consider changing barium meal to upper GI study *Reply:* We have used "Upper GI study" in brackets beside barium meal in the abstract and at first mention in the body (line 81), to make it clear that this is a synonym for barium meal study as naming can differ across countries such as Australia, UK and USA.
28	Laparoscopic composite fundoplication. What does composite imply? *Reply*: Has been removed to avoid confusion in the operative technique of laparoscopic fundoplication, which is not discussed in this paper Change in text: Removal of 'composite' in abstract line 41
53	The GOJ is not above the diaphragm in type II *Reply:* Thank you. This paragraph talks about type III and IV but understand the possibility of confusion. Sentence has been rephrased. Change in text: **Line 89-90 page 4**
85	SAGES recommendation (see below) is not to operate on asymptomatic patient with PEH. Even the author operated on 172 out of 231 Decision analysis modeling of contemporary data suggests that routine elective repair of completely asymptomatic paraesophageal hernias may not be indicated[45]; that is, such hernias may be safe to observe and to manage expectantly. This conclusion, based on analysis of 5 studies[53-57], suggests that repair should be reserved for patients with symptoms of gastric outlet obstruction, those with severe gastroesophageal reflux or anemia, and those with possible gastric strangulation. *Reply:* Thank you, we have made **addendum comment in introduction, line 116,** regarding this. We did not analyse indications for surgery in detail for the purpose of this study.

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112, 163	Proceeding to surgery based on endoscopy and/or BM. Only one third (60 patients) had both diagnostic modalities. This needs explanation as it seems to be inadequate preoperative evaluation of PEH. *Reply*: **Addendum to line 125** Method sentence has been amended, in clinical practice there are multiple other modalities such as CT scan, CXR, etc apart from endoscopy / upper GI. All patients had a mixture of clinical and diagnostic indication for surgery. For the purpose of this study these are not discussed in detail nor analysed in detail. All patients at operation had GHH/PEH.
140	Did the authors evaluate Hill grade in endoscopy report? This should be explained as it will help endoscopist to report in a standard fashion. Hill L D, Kozarek R A, Kraemer S JM. et al.The gastroesophageal flap valve: in vitro and in vivo observations. Gastrointest Endosc. 1996;44:541–547 *Reply*: Hill grade has been discussed in moderation as its purpose differ to our discussion: **Line 269-272 page 9** (only grade IV corresponds with the presence of HH and it is in relation to reflux disease predominantly). All patients would have had Hill grade 4, and it was not reported in community practice in our sample. Endoscopy occurred before the patients were referred.
352	Encouraging and educating other providers is good. However, the best practice is for the operating surgeon to do his own endoscopy preoperatively and intraoperatively. *Reply*: Thank you – we are in agreement. We hope prevent lack of diagnosis in the community by endoscopists which could lead to delay in care.