

Dear Editor,

Thank you for accepting my manuscript for publication in your journal.

I have looked through the reviewer comments below and made the necessary changes to the manuscript.

Thank you.

Dr Andrew Ong Ming-Liang

Singapore General Hospital

Reviewer #1: The paper is interesting, considering the high incidence of FGIDs and the difficulty to diagnosis them. That is why we need to create criteria, scores for trying to differentiate them from organic diseases and GIUS could be an interesting way to do that, especially during an initial investigation of FGIDs. The problem is that even looking to the literature there are not too many high quality papers, especially for evaluate physiology, absorption etc. But the authors may need to provide the number of publications they found for each aspect; need to describe how they selected the papers, the criteria of inclusion/exclusion, number of patients in the studies, quality of the statistical analyzes of these papers and so on. I suggest to elaborate a list of the most important papers for each part of their discussion in a table. The authors need to summarize some paragraphs, and need to improve a little bit the organization of the discussion and the tables. There are some minor language corrections. The title maybe should be changed to "Narrative Review of the potential use of the Ultrasound in the differential diagnosis of functional gastrointestinal disorders". Table 1 is too long, although very good tool to summarize their findings to the reader. Maybe it should be split in 3 different tables, one for each aspect of the discussion.

Reviewer #2: The aim of this manuscript is to review the current knowledge on current and potential uses of GIUS in FGIDs. The authors suggest the procedure to be of value in diagnosis and exclusion of a number of factors contributing to the functional GIT disorders. The manuscript presents good knowledge but the authors need to display in each section what other interventions that are currently of use and the relative sensitivity and specificity reported for each relative to US as could be concluded from previous studies. Advantages disadvantages and validity of the intervention need to be discussed in an organized pattern and the possible uses in terms of precision of the procedure and reliability need to be put in order. Considering this is a narrative review the authors presented good knowledge that need to be organized. They are displaying the benefits of US in FGID which is a good bedside test that aids either exclusion of diagnosis but more towards the exclusion at first encounter of some serious conditions. The manuscript doesn't present something new yet confirms the benefits of an existing procedure that might provide good diagnostic aid if by an expert. This is a narrative review and the authors need to follow the structure of a narrative review introduction, body and discussion so the section of methods need to be excluded as this applies only to systematic reviews. Language editing support is advised.

Reviewer #3: This narrative mini-review was considered to provide useful information to the readers. Accept for publication is recommended

Reviewer #4: This Review examines the usefulness of abdominal ultrasound in the diagnosis of Functional gastrointestinal disorders (FGIDs). I find interesting the paper but there are some concerns. I would suggest some changes which I hope could improve the manuscript. Major points Evaluating

GI physiology 1) Page 5 lines 12-14 "Certain patterns ... luminal content" should be moved later (see point 4) 2) Pag 5 lines 15 to the end of the paragraph pag 6 : "FD is a common FGID volumes after meals [26,27]". The authors should express synthetic concepts, in fact many of these studies have been useful to understand the pathophysiology of gastric motility but had little diagnostic impact. The authors, in order to make understandable the usefulness of GIUS, should suggest practical cut-offs in defining the hypo and hyper-motility (if any exist). It needs to indicate which are the kind of patients who can benefit from the motility study; in fact, these tests are often very long, involve the operator for a long time and are not useful in all patients with FGIDs Clinical utility in excluding organic diseases 3) pag 8 lines 4-14: "FGIDs also commonly.... and gallstones [39]", this part must be shortened and the diagnosis of acute abdomen must be removed, in fact it is exceptional that FIDGs occurs with a clinical picture of acute abdomen or ascites, ectopic pregnancies, etc. therefore I would leave pictures of non-acute abdominal pain: nephrolithiasis and gallstones. It may be useful, finally, in this section, comment the usefulness diverticulitis that has not always an acute abdomen. You can find suggestions in guidelines of European Federation of Societies for Ultrasound in Medicine and Biology (Ultraschall Med. 2019 Apr; 40 (2): 163-175). 4) I suggest to shift the role of GIUS in the diagnosis of celiac disease in this section (see point 1) and I would complete its diagnostic utility in non-typical clinical contexts, which are sometimes difficult to distinguish from FIDGS, briefly commenting on these 2 papers which deepen this topic (Archives of Internal Medicine. 2004; 164 (2): 169-74), Ultraschall Med; 2011 32 Suppl 1, S53-61 Jan 2011). 5) IBS has symptoms similar to Non celiac wheat sensitivity, and their differentiation is difficult; a recent study found that ultrasound does not help in defining the diagnosis in these cases (J Clin Gastroenterol 2019; 53 (1), e31-e36). I suggest the authors to cite it and comment on it to describe the limits of GIUS. Using GIUS to build rapport with patients 6) From Pag 10 line 10 to page 11 line 4 it is useful to summarize the concepts Research applications 7) The reproducibility of the results of the study by Arslan G et al (ref 63) is very difficult. It is not a coincidence that this remained the only study in the literature conducted in this field, anyway the authors commenting on this study should emphasize its limits. Future directions 8) Page 12, lines 8-14: "However, there is a slow gain in acceptance..... alone [66]". I suggest advising Investigator training and learning curve proposed by the European Federation of Societies for Ultrasound in Medicine and Biology in guidelines, which is more reliable (Ultraschall Med. 2017 Jun;38(3):273-284.) Minor revision There are typing mistakes, the authors must correct

Reviewer #5: This is a very well written mini-review. Even though currently GIUS is reserved for more specific indications, it's use in FGID may gain popularity over years.

Reviewer #6: The author present a mini-review on the use of gastrointestinal ultrasound in functional gastrointestinal disorders. The topic is interesting and worth reporting. The main problem with the current manuscript is the complete lack of information (results) after the literature review. The authors need to provide the number of identified publications, inclusion and exclusion criteria and a

sort of flow-chart, which displays the chosen publications. Furthermore, a structured report on the included publications for the given sub-paragraphs is required.