Reply to the reviewer's and editorial office's comments

To

The Editor Artificial Intelligence in Gastroenterology

Dear Sir,

Thank you for reviewing our manuscript entitled "**Role of Artificial Intelligence in the Characterization of Indeterminate Pancreatic Head Mass and its Usefulness in Preoperative Diagnosis- 87177"** and encouraging us. We have gone through the comments and made the necessary changes as asked by the reviewer and the editorial office.

In the revised manuscript, the changes have been highlighted in yellow colour. The necessary grammatical corrections have been made. Tables and figures have been sent separately as requested.

Point by point, the reply to the reviewers comments are as follows:

Comments	**Reply**
The article is within the scope of the journal, and deals with an interesting topic. It is well written. The reading is clear and fluent. The work performs a review of the application of AI. It is a novel and original contribution to the state of the art.	Thank you very much for appreciation of our work.
1) It should be explained how the review was carried out: sources consulted, information search and retrieval criteria, years considered, type of review carried out...	All the relevant articles were reviewed in the field of artificial intelligence differentiating different types of pancreatic head lesions (chronic pancreatitis, autoimmune pancreatitis, pancreatic malignancy, cystic neoplasm of pancreas). The following section has been added to the manuscript All the relevant articles were searched from PubMed and Google Scholar using the keywords i.e., "artificial intelligence" AND "pancreatic lesions" OR "cystic lesions", OR "CT", OR "MRI", OR "EUS", OR

	"PET" OR "Pathology", OR " Biomarkers" etc. between 2005 and 2023. and only full articles were studied. Articles discussing the differentiation of different types of pancreatic lesions were included and screened by all authors. Abstracts and conference presentations were excluded. Studies discussing the differentiation of pancreatic lesion (benign vs. malignant) were included in relevant sections for discussion. The study flow chart is shown in Figure 1.
2) A discussion section should be included in which the work presented is compared with other similar ones, establishing the limitations of the study, as well as a vision about the trends found.	The studies reporting the use of artificial intelligence to distinguish malignant pancreatic lesions from benign ones are sparse and limited. Though similar studies are available in breast cancer, lung cancer, hepatocellular carcinoma, renal cell carcinoma, adrenal tumours and many others. The following sentence has been added to the discussion section. Pancreatic incidentalomas or indeterminant lesions are on the rise due to the plethora of cross-sectional imaging performed to diagnose non-specific abdominal complaints. Though plenty of studies have been made in the field of breast cancer, lung cancer, hepatocellular carcinoma, renal cell carcinoma, and adrenal tumours, there is a dearth of literature discussing how to different benign pancreatic lesions from benign ones. The current literature included studies comparing individual pancreatic lesions i.e serous cystadenoma vs mucinous cystadenoma, autoimmune pancreatitis vs pancreatic adenocarcinoma, low grade vs high grade IPMN etc. However, a comprehensive review discussing how to differentiate various malignant pancreatic lesions (both cystic and solid) from benign lesions with the help of artificial intelligence

	is lacking. Hence, in this review, we have discussed how to differentiate different pancreatic lesions encountered in day to day clinical practice using different algorithms of artificial intelligence. We have discussed individually about different diagnostic modalities and different types of pancreatic lesions. There are more studies available in the field of radiological investigation and less studies available for histopathological diagnosis or intra-operative differentiation of malignant from benign lesions. As understanding of usefulness of AI is increasing, these limitations can be curtailed in the near future.
3) The conclusions should make explicit the scientific contribution of the article.	The conclusion has been modified. AI is evolving technical advancement in the field of medicine, and this review has described how it can help to differentiate indeterminant pancreatic lesions into benign or malignant. It can enhance diagnostic yield of imaging (CT, MRI, PET), EUS, tissue diagnosis (cytopathology, histopathology) and biomarkers (liquid biopsy) leading to early diagnosis, management, prognostication, thereby leading to better patient care.
4) A section should be included where the results obtained are synthesized.	Methods and literature search section has been added. All the relevant articles were searched from PubMed and Google Scholar using the keywords i.e., “artificial intelligence” AND “pancreatic lesions” OR “cystic lesions”, OR “CT”, OR “MRI”, OR “EUS”, OR “PET” OR “Pathology”, OR “ Biomarkers” etc. between 2005 and 2023. and only full

	articles were studied. Articles discussing the differentiation of different types of pancreatic lesions were included and screened by all authors. Abstracts and conference presentations were excluded. Studies discussing the differentiation of any pancreatic lesion (benign vs. malignant) were included in relevant sections for discussion. The study flow chart is shown in Figure 1.
New language certificate along with the manuscript.	Added
	Abbreviations used in abstract have been explained.
Editorial office comments	
I have reviewed the Peer-Review Report, full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the Artificial Intelligence in Gastroenterology, and the manuscript is conditionally accepted.	Thank you very much for acknowledging our review article.
Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor.	Figures provided as ppt. file
If the picture is 'original', the author needs to add the following copyright information to the bottom right-hand side of the picture in PowerPoint (PPT): Copyright ©The Author(s) 2023	Added
Authors are required to provide standard three-line tables, that is, only the top line, bottom line, and column line are displayed, while other table lines are hidden.	Tables are modified as asked.