metaplasia progress. We hope that more studies will be conducted with sufficient observation periods so that we may reach a definitive conclusion regarding this issue.

DISCLOSURE

Both authors disclosed no financial relationships.

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The diagnostic value of EUS-guided fine-needle aspiration/biopsy for solid pancreatic lesions: contrast-enhanced versus conventional EUS

To the Editor:

We read with great interest the article by Cho et al,[1] which compared the diagnostic sensitivity for pathologic diagnosis of solid pancreatic lesions (SPLs) between a contrast-enhanced harmonic EUS(CEH-EUS) group and a conventional EUS group. The authors recommended that CEH-EUS-guided fine-needle aspiration/biopsy (FNA/B) might be considered for small, indeterminate SPLs, consistent with the previous study.[2]

Patients were randomly assigned to the CEH-EUS group (n = 120) and the conventional EUS group (n = 120). Actually, the randomized controlled design was the strength of this study. However, we believe that a crossover design might be a better choice.[3] In the CEH-EUS group, CEH-EUS–guided FNA/B was performed, followed by conventional EUS-guided FNA/B. In the conventional EUS group, conventional EUS was used first. This design method can not only balance the basic characteristics of patients and lesions but also enlarge the sample size in each group to 240 patients.

In addition, when the diagnostic values of the 2 groups were evaluated, the criterion standard was mainly based on the results of FNA/B instead of the surgical results. False positive or negative results might occur during FNA/B. We were puzzled that the authors used the results of EUS-FNA/B to evaluate the diagnostic value of EUS-guided FNA/B and each pass. In our opinion, the diagnostic value used in this article should be converted to the adequacy of the tissue sample.

Finally, the authors concluded that larger needle diameters might predict a higher diagnostic value. However, they put 19-gauge and 22-gauge needles into the same group to make a comparison with a 25-gauge needle. Although no significant differences in needle type and size between the 2 groups were noted, fewer FNB needles and more 25-gauge needles used in the conventional group underestimated the diagnostic value of conventional EUS.

In conclusion, it is an excellent study, providing us with a better understanding of CEH-EUS-guided FNA/B.

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Response:

We thank Du et al[1] for their special interest and insightful comments on our article.[2] We have confirmed that many researchers are interested in increasing the diagnostic yield of EUS-FNA.

The crossover design is considered to be a good way to secure a sufficient number of patients by assigning enrolled patients to both groups. However, unlike the study by Wang et al,[3] there are concerns about adopting the crossover design to our study. If the crossover design is adopted, patients may undergo a large number of needle passes, which causes an increase in the risk of adverse events. Also, the crossover design does not fit the purpose of confirming the optimal number of needle passes in situations without onsite pathologic analysis.

In this study, we investigated the diagnostic sensitivity of each needle pass of EUS-FNA/fine-needle biopsy in patients whose diagnosis was confirmed through surgery or a sufficient follow-up period. Tissue sample adequacy was used to determine whether to terminate the EUS-FNA/FNB procedure, and the procedure was terminated when sample adequacy was visually confirmed (median number of needle passes, 3; range, 1-5). Therefore, it was not used as a criterion for the final diagnostic value. In addition, a false positive result is rarely reported in an EUS-FNA/FNB procedure.

Finally, as described as a limitation in the discussion section, there were no established protocols for needle selection. The proportion of 19-gauge needles was only 6.3%, so it was analyzed after putting them together with 22-gauge needles. Although the diagnostic sensitivity according to the needle size was not the primary endpoint of this study, it caused some confusion in the interpretation of the results. We think that a more delicate protocol setting is required for future research planning.

In conclusion, we are very pleased that our research has provided an opportunity for discussion and advancement.

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Comparison of pancreatic cystic fluid glucose and carcinoembryonic antigen in the diagnosis of pancreatic mucinous cysts

To the Editor:

We read with interest "A comparative analysis of glucose and carcinoembryonic antigen in diagnosis of pancreatic mucinous cysts: a systematic review and meta-analysis" by Faias et al.[1] The authors conclude that pancreatic cyst fluid (PCF) glucose is more accurate than carcinoembryonic antigen (CEA) in determining whether the lesion is mucinous. There are several limitations in the reviewed body of literature that make this conclusion suspect. One of the 5 studies did not compare glucose with surgical pathologic analysis and should not have been included in the meta-analysis, given the inclusion criteria set by the authors.[2] There are insufficient data on the sensitivity and specificity of PCF glucose with the use of surgical pathologic analysis as a criterion standard. Three of the studies in the glucose group were done by a similar group of authors, and among those, 2 were done at the same center, raising a question of overlapping patients.[3-5] In the systematic review, the authors state that 8 studies that used CEA values other than 192 ng/mL were excluded. However, the table includes several studies for which the cutoff point for CEA level was not available or that used values other than 192 ng/mL.[6]

The aim of this meta-analysis was to determine the utility of preoperative EUS-obtained PCF glucose levels for the diagnosis of a mucinous cyst. However, only 53 patients underwent EUS sampling, whereas most samples were collected during surgery. This introduces a possible