Peer Review File

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Reviewer A

This is an interesting retrospective comparison of HJ vs HD after bile duct cancer excision.

Major comments.

1. The location of the tumor and the shortest negative margin whether proximal or distal and the sites of any local recurrence should be included. It is likely that in the HJ group the CHD has a smaller segment. the authors should also mention if any patients in HJ group had more than 1 duct anastomosed to Roux limb

- ✓ We totally agree with your comments. In our study, the location of the tumor was between the liver hilum and suprapancreatic margin of CBD, and the shortest negative margin was 0.1 cm. The recurrence sites were resection margin, portocaval area, and peritoneum, and all HJs were anastomosed with one hepatic duct.
- ✓ We inserted the following statements "the remaining 38 eligible patients were included in our analyses, and their tumor location was between the liver hilum and suprapancreatic margin of common bile duct" in method section, and we modified the title "Safety and efficacy of hepaticoduodenostomy for biliary reconstruction after extrahepatic mid-bile duct cancer surgery". The shortest negative margin was 0.1 cm and is shown in table 2. We inserted the following statements "The recurrence sites were resection margin, portocaval area, and peritoneum" in result section, and we modified the table 2. We inserted the following statements "Retrocolic RYHJ were used as a standard reconstruction method in the RYHJ group and all HJs were anastomosed with one hepatic duct" in method section according to your opinion.

2. Since the feasibility of HD is more in distal cancers the proximal extent of the tumors in both groups in relation to both groups should be included.

- ✓ We totally agree with your comments. The resection margin variable in Table 2 refers to the proximal resection margin. we modified the table 2.

Minor points

The introduction section in the manuscript can be shortened and details discussed in Discussion section.

- ✓ We removed some sentences in the introduction according to your opinion.

The title has to be more specific for HD for extrahepatic bile duct cancers (Mid CBD) and not all BDCs as the general group also includes hilar and distal tumors

- ✓ We modified the title "Safety and efficacy of hepaticoduodenostomy for

biliary reconstruction after extrahepatic bile duct cancer surgery" according to your opinion.

Reviewer B

Firstly, in your study, the group that underwent BDR alone accounts for over 55% of all CBD cancer patients. Multiple studies indicate that while BDR has better short-term outcomes compared to PD and hepatectomy c BDR, it is not preferred due to worse long-term outcomes. It is suggested that BDR should be performed selectively in patients with poor general conditions. Our center also does not favor BDR alone. I am interested in understanding why your center performs BDR at such a high rate.

- ✓ We totally agree with your comments. We are also aggressively performing PD and hepatectomy c BDR in patients with tumors located in the hepatic hilum, intrapancreatic bile duct invasion, and previous abdominal surgery. However, in patients with mid-CBD ca. with adequate hepatic hilum and suprapancreatic margin, BDR alone is performed in limited cases because it has shown some feasible results in older and comorbid patients. Therefore, we modified the title and manuscript of the study as the above statement may confuse the understanding of the study.
- ✓ We inserted the following statements "the remaining 38 eligible patients were included in our analyses, and their tumor location was between the liver hilum and suprapancreatic margin of common bile duct" in method section, and we modified the title "Safety and efficacy of hepaticoduodenostomy for biliary reconstruction after extrahepatic mid-bile duct cancer surgery"

Our center has extensive experience performing HJ in patients undergoing HPD, hepatectomy with BDR, PD, and BDR alone, including those with previous stomach and small bowel operations. We rarely encounter difficulties performing HJ. In contrast, BDR alone can be challenging when excising the CBD just below the bifurcation and re-anastomosing it, even with full Kocherization. Could you share your surgical techniques for these cases?

- ✓ Of course, we have no difficulty with HJ in our center, even with previous stomach and small bowel operations. As mentioned, if the duodenum is not mobilized even with full Kocherization, there are limitations even if the liver and stomach are mobilized. In conclusion, we have no special surgical techniques either. However, this study aims that HD may be considered on a limited basis in patients who are elderly or have many comorbidities, and in patients who have undergone previous surgery and have adhesions that prolong the procedure and require extensive intra-abdominal manipulation. This study also included patients with HD in whom the duodenum was well mobilized by full Kocherization and

anastomosis with the hepatic hilum was possible. Therefore, we include your comments in the discussion.

- ✓ We inserted the following statements "However, HD can be challenging when cancer excising the bile duct that just below the hepatic hilar bifurcation and re-anastomosing it, even with full Kocherization. There is a limitation that HD can only be performed when anatomical conditions are satisfied. Therefore, further investigations exploring the feasibility of HD and surgical as well as oncologic outcomes are needed." in discussion section according to your opinion.

In the Methods section, it is stated that the decision to perform HD considers the patient's age and comorbidities. Despite the surgical technique and field of HD and HJ not differing significantly, I question why these factors are criteria for deciding on HD. If they are, please specify the standards. Clear criteria are necessary for your findings to be used as a basis for large-scale, prospective studies as you mentioned in discussion. Your experiences and standards should be detailed.

- ✓ We totally agree with your comments. HD is the simplest form of biliary-digestive anastomosis as it involves minimal modifications to the normal anatomy. Therefore, HD can reduce extensive intra-abdominal manipulation, which is beneficial for patient recovery. In our study, operative time was shorter in the HD group. Because of the reduced exposure time to general anesthesia, it has the potential to have favorable outcomes for patients who are elderly or have many comorbidities. However, because this study was limited in number of cases and there are no previous studies analyzing the efficacy of HD in extrahepatic mid-bile duct cancer, it is difficult to provide a specify the standards for our results. Therefore, it is recommended to include the above in the discussion and further research to establish clear criteria.
- ✓ We inserted the following statements "due to the absence of objective indications based on surgical or patient characteristics, HD was performed based on the subjective decision of the operator and surgical findings. Therefore, it is challenging to establish specific standards for our results in patients with extrahepatic mid-bile duct cancer." in discussion section according to your opinion.

Additionally, I am curious about how many patients undergoing HD had previous surgical histories. For patients without such histories, despite HD being more technically challenging, why was HD chosen over HJ? For those with previous surgeries, were there cases where HJ was performed?

- ✓ For HD to be possible, the duodenum is full mobilized with Kocherization. If the duodenum is fully mobilized through Kocherization, then the HD is more simple method of biliary-digestive anastomosis than RYHJ as it involves minimal modifications to the normal anatomy and not requiring an additional jejuno-jejunostomy. Therefore, it may be

a beneficial for patients who have undergone previous abdominal surgery including stomach and small bowel operations. And we review patients' histories to identify those who have undergone previous surgeries.

- ✓ We modified the table 1 and we inserted the previous surgical history variable.

In the results table, only the grade of complications is listed. I want to verify whether each complication is directly related to the surgical method, such as cholangitis, bile leak, or biliary stricture. If the complications are not directly related to the surgery method, such as those due to diuretics (C-D classification I), then the logistic regression analysis for risk factors and complications and its stated lack of association with HD is meaningless.

- ✓ In this study, the complication that was directly related to the surgical method, such as cholangitis, bile leak, or biliary stricture, was only 1 bile leak. The remaining 5 cases were all percutaneous drainage of operation related fluid collection (Op.field, pleural effusion, etc.). We totally agree with your comments, and we include your comments in the result and modify the Table 2.
- ✓ We inserted the following statements "Postoperative complication rates were similar between groups (15.0% in the RYHJ group vs. 16.7% in the HD group (p=0.996), bile leak was 1 case in RYHJ group and ascending cholangitis was 1 case in HD group." in result section, and we modified the table 2 and we inserted the sub-variable in complication variable according to your opinion.

Lastly, in the conclusion section. the statement "HD is comparable or superior to RYHJ in terms of operative time, postoperative complications, and oncologic outcomes" could be misleading, suggesting HD is the superior method. While it is true that HD has a shorter operative time, I recommend revising this sentence to avoid potential misinterpretation.

- ✓ We totally agree with your comments, and we modified the conclusion "In our study, HD appears to have comparable postoperative complications, and oncologic outcomes to RYHJ in patients requiring bilio-enteric reconstruction for extrahepatic mid-BDC." according to your opinion.