This study investigates the involvement of the retroperitoneal resection margin in a series of 114 peri-ampullary cancers and correlates the rate of margin involvement with multiple pathological tumour features and patient survival. Microscopic margin involvement (R1 resection) was observed in 35% of cases and was found to be an independent predictor of poor prognosis. Within the group of microscopically margin negative cases (R0 resection), pancreatic tumour origin was the only independent prognostic factor.

This study addresses the important issue of the prognostic significance of margin involvement in peri-ampullary cancer. The manuscript is well-written and the data is carefully analysed and presented. The results of the study are of clinical interest. By comparing the observations from this study with data in the literature, the authors correctly make the important point that standardization of the pathology examination of pancreatectoduodenectomy specimens is of paramount importance with regard to accurate assessment of both the resection margin status and tumour origin. Failure to do so results in blurring of data, which may in part explain the wide range of R1 rates and survival data published in the literature.

The authors may wish to consider the following issues:
1. In this study, the “retroperitoneal resection margin” is limited to (part of) the posterior surface of the pancreatic head, and does not include the specimen surface along the groove of the superior mesenteric vein (SMV) and the anterior surface of the pancreatic head. In previous studies that examined the entire specimen surface (ref. 9 & 21 in the manuscript), the R1 rate was significantly higher than in the current study. The authors may wish to explain why the anterior surface and surface along the SMV groove were not included in the analysis of this study. The authors indicate that one reason was “to avoid extensive sampling”, however, it has previously been shown that the extent of tissue sampling influences the reported margin status (ref. 9).

2. The authors may wish to explain why they restricted the examination of the “retroperitoneal” margin to the area of sharp dissection. The UICC definition of the “R-status” is independent of the surgical dissection technique, ie. it does not specify that only sharp and not blunt dissection determines whether a surface is to be regarded as a resection margin. Besides, the distinction between the two may not always be obvious to the pathologist, and margin assessment may become unduly dependent on local variation in surgical technical detail, if limited to areas of sharp dissection only.

3. As the authors rightly point out, the specimen dissection technique is key to the assessment of the tumour origin and margin status. As techniques vary considerably between different centres, it would be interesting to know more detail about the technique used in this study. In particular, it would be helpful, if the authors could indicate:
-in which plane the specimen was sectioned, and, on average, how many slices were obtained per specimen
- the thickness of the tissue slice (thin shaving?) that is sampled from the “retroperitoneal margin” and subsequently sliced
- if the tumour extended close to the specimen surface away from the retroperitoneal margin, whether this surface was excluded from the tissue analysis.

4. The authors clearly demonstrated that survival is poorest for pancreatic cancer, which amongst the peri-ampullary cancers remains the greatest therapeutic challenge. Data specifically related to pancreatic cancer are relatively rare in the literature, and hence it would be of interest to see absolute data regarding tumour size, lymph node status, grade of differentiation and perineural infiltration stated for the pancreatic subgroup (and ideally for the other subgroups) rather than overall data for the entire series of peri-ampullary tumours (Table 3).

5. The study shows that the survival for cancer of the distal common bile duct seems to be better than that of pancreatic cancer, despite the fact that the R1 rate is higher in the former subgroup. Can this be explained by a lower incidence of other adverse prognostic factors (lymph node metastasis, vascular or perineural invasion) in the group of bile duct cancers?

What next?: Accept after discretionary revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.