International Journal of Surgery 71 (2019) 170–171

Contents lists available at ScienceDirect

International Journal of Surgery

journal homepage: www.elsevier.com/locate/ijsu

Invited Commentary

A commentary on the article: "Intraductal papillary mucinous carcinoma versus pancreatic ductal adenocarcinoma: A systematic review and meta-analysis", Int J Surg 2019;71:91–99

ARTICLE INFO

Keywords:
Intraductal papillary mucinous neoplasm
IPMN
Invasive intraductal papillary mucinous neoplasm
Invasive IPMN
Pancreatic
Ductal adenocarcinoma
PDAC
Pancreas tumor
Pancreas surgery

Since the description of Intraductal papillary mucinous neoplasm (IPMN) of pancreas by Kazuhiko Ohashi in 1982, it has been the subject of research and debate. This is a papillary neoplasm, i.e. forming a papillary projection, arising from epithelium of the main or a branch duct of exocrine pancreas with production of mucin which causes cystic dilation of the duct. IPMN is originally a benign lesion but has the potential for malignant transformation. IPMN arising in the main duct (MD-IPMN) has a mean malignant frequency of 50–60%. This figure is much less for branch duct IPMN (BD-IPMN), of 15–20%. This is why the treatment of choice for MD-IPMN is surgical resection while for BD-IPMN is primarily close surveillance unless High-risk features are present. Pancreatic ductal adenocarcinoma (PDAC) is another pancreatic tumor arising from pancreatic ductal epithelium and comprises 95% of pancreatic cancers. This makes it a good reference for comparison to other pancreatic tumors. There is an increased risk of developing PDAC with presence of IPMN, which may be genetically controlled [1]. However, the differences between the biologic behaviour, prognosis and response to treatment, including after surgical excision, of IPMN and PDAC need to be further elucidated.

Linus Aronsson and colleagues recently published a systematic review and meta-analysis on survival and recurrence of surgically treated IPMN associated with invasive carcinoma (IPMC) vs. PDAC [2]. They reviewed 14 studies including 2,789 patients with IPMC and 34,885 patients with PDAC. On multivariable regression analysis a significantly improved survival of IPMC compared to PDAC was found. However, the difference in survival between IPMC and PDAC reduced to almost the same in patients with high American Joint Committee on Cancer (AJCC) TNM stages and with lymph node spread. The data suggest that PDAC has an inert aggressive biology with a higher incidence of lymph node spread, micro-involvement (vascular-, perineural-, and lymphatic invasion), more advanced AJCC TNM-staging and higher rate of positive resection margin compared to IPMC. All these can explain the worse overall survival in PDAC compared to IPMC. The major limitation of this study is that all the included studies were retrospective, thus leading to a potential for selection bias.

Finally, improved postoperative survival outcomes of IPMC compared to PDAC was demonstrated, which was substantial at early stages, and which disappeared at high stages.

This finding is in line with a similar meta-analysis published in 2014 by Koh and colleagues which stated: "invasive IPMN were significantly more likely to present at an earlier stage and were less likely to demonstrate nodal involvement, perineural invasion and vascular invasion. When controlled for stage, Invasive IPMN had an improved overall survival compared to PDAC in early stages" [3].

However, a recent single center report from Japan using stage-matched analysis did not show any significant survival difference between patients with invasive IPMN and PDAC [4].

The findings by Linus Aronsson and colleagues [2] supported the findings of previous studies. However, there are studies that did not support these findings. Further controlled trials are required in this area.

Conflicts of interest

None.

DOI of original article: https://doi.org/10.1016/j.ijsu.2019.09.014

https://doi.org/10.1016/j.ijsu.2019.10.003
Received 2 October 2019; Accepted 4 October 2019
Available online 09 October 2019

Provenance and peer review

Invited commentary, internally reviewed.

References

[1] R. Matsuda, Y. Miyasaka, Y. Ohishi, et al., Concomitant intraductal papillary mucinous neoplasm in pancreatic ductal adenocarcinoma is an independent predictive factor for the occurrence of new cancer in the remnant pancreas, Ann. Surg. (2018 Oct 10), https://doi.org/10.1097/SLA.0000000000003060 [Epub ahead of print].

[2] L. Aronsson, A. Bengtsson, W. William Torén, et al., Intraductal papillary mucinous carcinoma versus pancreatic ductal adenocarcinoma: a systematic review and meta-analysis, Int. J. Surg. 71 (2019) 91–99.

[3] Y.X. Koh, A.Y. Chok, H.L. Zheng, et al., Systematic review and meta-analysis comparing the surgical outcomes of invasive intraductal papillary mucinous neoplasms and conventional pancreatic ductal adenocarcinoma, Ann. Surg. Oncol. 21 (2014) 2782–2800.

[4] S. Yamada, T. Fujii, A. Hirakawa, et al., Comparison of the survival outcomes of pancreatic cancer and intraductal papillary mucinous neoplasms, Pancreas 47 (2018) 974–979.

Faramarz Karimian
Tehran University of Medical Science, Iran
E-mail address: faramarz.karimian@gmail.com.