Editorial

Preservation of aberrant right hepatic artery during pancreaticoduodenectomy

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The standard surgery for distal common bile duct adenocarcinoma, pancreatic adenocarcinoma, and ampullary adenocarcinoma is pancreaticoduodenectomy (PD). PD is a technically challenging procedure with high mortality (0–3.5%) and morbidity (38–50%) rates (1-5). It is essential to recognize the anatomy preoperatively, especially of the hepatic artery and positions of the tumors, to avoid adverse events (6,7). The aberrant right hepatic artery (aRHA) originating from the superior mesenteric artery (SMA) is the most frequent and considerable hepatic artery variation (8-10).

As we reported previously, another type of aRHA originates from the gastroduodenal artery (GDA) (11). This aberrant is vital since the GDA is necessary to ligate during PD, and division of the GDA means loss of right hepatic artery (RHA) flow.

Although the short-term outcomes of the division of the RHA in PD remain unclear, the loss of RHA flow might result in critical adverse events. Bile duct ischemia and/or liver failure could cause the leakage of bile-enteric anastomosis. There is a report of 2 cases of bile-enteric anastomosis leakage secondary to bile duct ischemia after ligation of the RHA, which finally required liver transplantation (12). Fernández *et al.* also reported 2 cases that developed liver failure post-ligation of the RHA and required liver transplantation (13).

Shukla *et al.* concluded with a systematic review that every attempt should be made to preserve aberrant RHA unless their resection is oncologically indicated (14).

The study "*Preservation of aberrant right hepatic arteries does not affect safety and oncological radicality of pancreaticoduodenectomy-own results and a systematic review of the literature*" provides valuable insights into the impact of preserving aRHAs during PD (15).

The study's findings suggest that preserving aRHAs does not compromise the safety and oncological radicality of PD. This is an important finding as it provides evidence for surgeons. Preserving aRHAs during PD might improve the patients' outcomes by reducing the risk of surgical complications.

In conclusion, surgeons should consider preserving aRHAs during PD. To prevent hepatic artery injury during PD in patients with aRHAs, the surgeons might prepare intensively. The preoperative recognization of the anatomy using computed tomography (CT) and/or magnetic resonance imaging (MRI) images and intraoperative liver Doppler ultrasonography might be helpful.

Furthermore, for complicated cases, the scheme using preoperative CT images could help recognize the anatomy around the essential vessels (*Figure 1*). Future studies should

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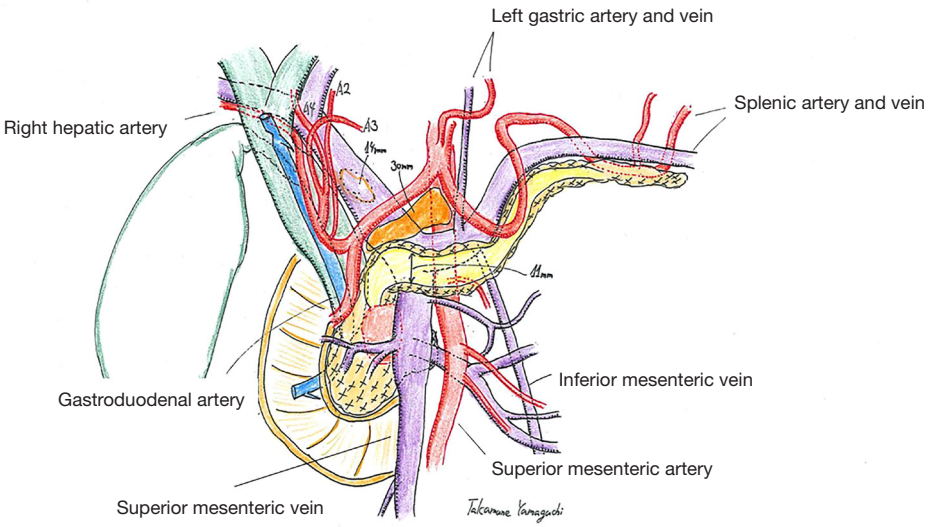

Figure 1 The scheme using preoperative CT images could help recognize the anatomy around the essential vessels. CT, computed tomography.

evaluate the impact of aRHA preservation on long-term oncological outcomes to provide further evidence for this practice.

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