LETTER TO THE EDITORS

Intraoperative cholangiogram to delineate caudate biliary anatomy in donor hepatectomy: Are we shooting for trouble?

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Dear Editor,

We read with interest the article by Makki *et al.* [1], in which they have analysed the caudate lobe biliary anatomy in 500 living liver donors and stressed the importance of understanding it in reducing postoperative bile leaks. Better understanding of liver anatomy and improvements in cross-sectional imaging have contributed extensively to the success of split liver transplantation (SLT) and living donor liver transplantation (LDLT). The early experience of SLT and LDLT saw a high incidence of biliary complications attributed to cut surface leaks. In 2008, based on their extensive experience in SLT, the senior author of this communication from Kings college hospital, London, proposed an explanation for the high incidence of bile leaks in segmental liver transplantation based on the biliary anatomy of caudate lobe [2]. The authors, Makki *et al.*, have taken this one step further and analysed the detailed biliary anatomy of caudate lobe in 500 LDLT donors using intraoperative cholangiogram (IOC) and suggest this as key to the low rates of biliary complications in both their donors and recipients. They conclude that it is therefore important that the detailed biliary anatomy of caudate lobe should be evaluated in every donor to demonstrate crossover ducts to be ligated and proposed a classification for the same. Previous investigators have recognised the incidence of increased bile leaks in segmental liver transplantation and have proposed suturing the hilar plate posterior to the sectoral duct openings and the caudate lobe until the venous orifice to prevent the caudate duct leaks [3]. If done meticulously, this technique would cover any crossover duct(s) and prevent bile leaks in both donors and recipients. It, therefore, makes demonstrating these ducts on IOC and classifying them, more of academic interest only with no practical importance. IOC usually demonstrates the biliary tract up to the second-order ducts. Demonstrating caudate biliary anatomy clearly will require additional contrast injection under pressure, which is associated with the theoretical risk of acute pancreatitis due to acinarisation of pancreatic duct [4] or inflammatory response due to bilioportal reflux. We therefore believe, that even though the paper is of great interest in understanding caudate biliary anatomy, it is of no practical interest to the liver surgeon. Important change in clinical practice based on these anatomical finding may prove to be both expensive and harmful to patients. In our programme, we have been striving to rely mostly on preoperative MRCP for our living donors, reducing the need for IOC. In our last 100 living liver donors, we have needed to perform IOC in only seven patients, when MRCP was not adequate, without any increase in incidence of biliary complication in both donors and recipients.

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Conflict of interest

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