Summary and Conclusion

Hepatobiliary imaging by computed tomography (CT) has advanced impressively since the introduction of multidetector CT (MDCT) scanners in the late 1990. ***(Kawata S. et al., 2002)***

The increasing speed of MDCT scanners has improved the ability to perform multiphasic examinations of the liver and so timing of contrast-material bolus is even more important. Most of the recently introduced 64-slice MDCT scanners image the whole liver in less than 2 s,which may result in superior hepatic scans during multiple phases with more optimal enhancement. ***(Foley WD et al., 2000)***

The three-phase, dual-enhancement multi–detector row CT (all in one) which includes CT cholangiography and CT angiography currently represents the standard procedure for comprehensive assessment of the hepatic parenchymal morphology in conjunction with estimation of the liver volumes and a detailed analysis of the biliary and vascular anatomy, thereby eliminating the need for invasive procedures. The entire examination, including administration of a biliary contrast agent and subsequent CT scanning, can be accomplished within a maximum of 1 hour.***(Tobias Schroider et al .,2006)***

Multidetector CT provides accurate and reproducible volumetric evaluation of potential donors undergoing living adult right lobe liver transplantation. This information is essential for patient selection and preoperative surgical planning.***(Ihab Kamel et al .,2001)***

Accurate assessment of the biliary anatomy is important as failure to recognize even minor intrahepatic branches crossing the dissection line can result in severe postoperative leaks and other complications **,** and MDCT cholangiography with additional use of intravenous cholangiographic contrast media reveals satisfactory visualization of second-order biliary branches in living liver donor candidates. **(*Wang Z J et al., 2005)***

Multi–detector row CT angiography allowed excellent delineation of the hepatic arteries up to the small intrahepatic branches in all evaluated candidates. All initially missed branches could be retrospectively detected on the CT images. ***(Tobias Schroeder et al., 2006)***

The 3D CT angiograms provide a useful overview, nicely depict most variants, and illustrate the relationship of branch points to each other. The 2D images are useful for assessment of small-diameter arterial variants that may not be apparent on the 3D images and be misclassified. ***(Bertram J. et al .,2004)***

MDCT easily can delineate portal venous anatomy and accurately identify normal venous variants. Variations in portal venous anatomy are common and may complicate hepatic resection and transplantation **(*Kamel IR et al., 2001)***

The prevalence of portal variation in Cetin Atasoy study is (34.5%) as it evaluated both thin axial sections and reformatted 3D images. This considers higher than the Previous studies ranges because possible that many variations have been missed on thick axial images.done in these previous studies ***(Çetin and Elif 2006)***

MDCT easily can delineate hepatic venous anatomy and accurately identify normal venous variants . Hepatic vein mapping is important before liver resection or transplantation, as the course of the middle hepatic vein determines the plane for formal right or left hepatectomy and allows preoperative prediction of the postoperative liver volume.***(Kamel IR et al., 2003)***

Important venous variants include accessory inferior hepatic veins can easily be delineated by MSCT, and these should be preserved in case of living donors to reduce the risk of graft malfunction. **(*Kamel IR et al 2001)***