

HAND AND MICROSURGERY: BEYOND THE UPPER LIMB

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Introduction: Liver transplantation is a complex and complicated surgical procedure and the hepatic artery anastomosis is the most complex step. The hepatic artery anastomosis is done under microscopic magnification with strict adherence to principles of micro-anastomosis and soft tissue handling. Hepatic artery thrombosis remains the most challenging complications of this procedure. This study outlines and share the experience of Hepatic artery anastomosis as viewed by a hand and microsurgeon.

Methodology: The study period is from the 1st of January 2019 till the 31st of December 2020. A total of 22 patients underwent liver transplantation. The hepatic artery anastomosis were done under operative microscope with micro-instrument. The hepatic artery size were documented and the suture size were appropriately selected. The patency of the artery was checked with intraoperative doppler ultrasound conducted by a hepatobiliary radiologist. In the event when there was any evidence of compromised arterial flow, a redo of the anastomosis is done immediately.

Discussion: A total of 22 patients received liver transplant with 21 orthotopic liver transplant and 1 living related liver transplant. The number liver transplant recipients were 10 males (45.5%) versus 12 females (54.5%) with the majority orthotopic transplant (n = 21, 95.5%) as compared to living related (n = 1, 4.5%). There were 3 failure of transplant secondary to Hepatic Artery Thrombosis (n = 1, 4.5%), sepsis (n = 1, 4.5%), and multiorgan failure secondary to delayed transplantation (n = 1, 4.5%).

Conclusion: Hepatic artery anastomosis is a challenging procedure. The anastomosis has to be done under microscopic magnification with very limited working space. On top of that, the strong pulsating hepatic artery of the recipient and the liver motion in tandem with the diaphragm makes a micro-anastomosis an ultimate challenge to any microsurgeon. In this study, we will share the experience and tips and tricks for a successful anastomosis.