

## EDITORIAL

### LIVER TRANSPLANTATION SERVICES IN PAKISTAN ARMY

At national level, a Liver disease has become a significant challenge for health care authorities. In population of 200 millions, 5% (10 million) are infected with hepatitis C virus, and more than 2 million are in need of liver transplantation to save their life<sup>1</sup>. So sufferers with Hepatitis B and C are around 0.7 million in Pakistan Army and around 8000 people are in need of Liver transplantation.

To address this emerging medical issue, it was decided to setup liver transplant services in Pak Army and Army Liver Transplant Unit (ALTU) was established on 15<sup>th</sup> Jul 2015. Living donor liver transplantation is the only treatment option for patients with end-stage liver disease (ESLD) as deceased donors are not currently available in Pakistan. First living donor liver transplant (LDLT) surgery was carried out on 8<sup>th</sup> Jan 2016, in collaboration with team of experts from University Hospital Birmingham, UK.

Liver transplantation is a complex procedure involving multi-disciplinary approach during all phases of assessment/management of a potential transplant case. Pertinent SP include Transplant surgery, Liver transplant Anesthesia, Hepatology, Intensive care, blood bank, pathology, immunology, microbiology, hematology, nephrology and chest medicine. Apart from developing a Infrastructure (Well equipped operation theaters (OTs), intensive care unit, Ward, Conference room and transplant Clinics), training of the human resource, in particular the core team (surgeons, hepatologist, anesthetists, intensivists, theatre staff and ITU staff) is the key to successful transplant program. ALTU is the third successful Liver transplant program in Pakistan after Shifa International and Sheikh Zayed Hospital.

Liver donor transplant surgery is more challenging and complex than deceased donor Liver transplant. Specific problems related to LDLT include a spectrum of complications that are still poorly understood. There has been a

higher rate of bile duct complications in liver donor recipients compared with DD recipients (approximately 20% versus approximately 5%) but most of these complications have been resolved with nonsurgical management; these problems include bile leaks from the cut surface of the transected liver, biliary strictures and anastomotic leaks. Hepatic artery thrombosis is also more common in LDLT, with rates of 1% to 7%<sup>3</sup>. Small-for-size syndrome (SFSS) is an important entity with an unknown frequency and clinical course in LDLT. Its mechanism is poorly understood because it can occur despite adequate volume calculations and body weight assessments pre-LT. Graft dysfunction of sub optimally drained segments (usually segments 5 and 8) can lead to congestion of undrained segments which contributed further to SFSS. We prefer a graft-to-recipient ratio of greater than 0.8 in all LDLT and believe that additional venous drainage through the middle hepatic vein may alleviate congestion of the graft in the medial sector and lead to better function<sup>4</sup>.

Another challenge of LDLT is to perform the donor operation safely without compromising the recipient outcomes. The risk of donor death is estimated to be 0.2% for left lateral segment donation and 0.5% for right lobe donation, so the emphasis on donor safety is of paramount importance in this procedure.

For Liver donation, a Living donor should fulfill following criteria;

- a. Have a close relationship with the person who will receive part of their liver. A donor can be either a member of the patient's family, spouse, or close friend.
- b. Be between the ages of 18 and 55.
- c. Have a blood type that is compatible with the blood type of the person they are donating to. This does not always mean that they are the same blood type.
- d. Be in very good physical and mental health.

- e. Be of sufficient height and weight.
- f. Not have had multiple abdominal surgeries, coronary heart disease, or severe obesity.

In regard to ethical issues, The Human Organ and Transplantation Authority (HOTA) regulates legal and ethical aspects of liver transplantation in Pakistan. The donor has to be legally (spouse, brother/sister-in-law) or blood related to the patient to be eligible for donation. ALTU team working hard in collaboration with AFIU, to create awareness amongst masses regarding deceased donor organ transplant program in Pak Army.

Development of any successful liver transplant program involves trg and dev of core team. The transfer of skills and development of local teams are on top priority as self-sufficiency will reduce the reliance on international collaborations while providing a continuity of care for the ever-increasing numbers of cirrhotic patients.

## REFERENCES

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