



In Person + Live Streaming

TTS 2024 ISTANBUL TURKEY
September 22-25
+ Virtual October 21-23

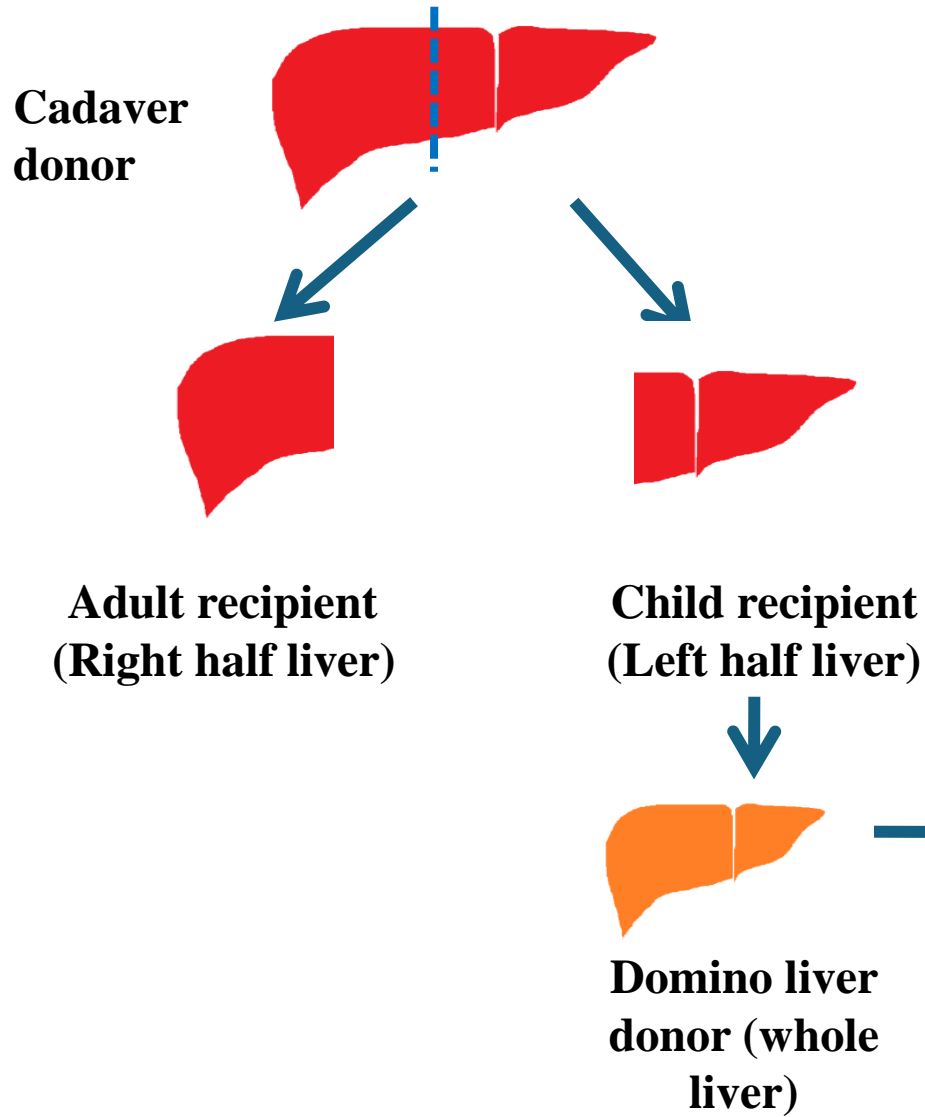


Title: Split left and right liver transplantation plus domino liver transplantation: one donor liver and three recipients at the same time, a complex but feasible allocation scheme to alleviate donor liver shortage

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Abstract: Donor liver shortage has always been the main obstacle limiting the development of liver transplantation. Split liver transplantation and domino liver transplantation can alleviate the problem of donor liver shortage and shorten the waiting time of recipients and have been implemented in many transplant centers. However, domino liver transplantation with split liver transplantation is rarely reported at home and abroad [1]. This study reports a case of cadaver donor liver split liver transplantation (right half liver) and a case of domino liver transplantation (domino liver). Patient 1 was diagnosed with hepatitis B cirrhosis (decompensated stage) and received split liver transplantation (right half liver). Patient 2 was diagnosed with familial hypercholesterolemia and underwent split liver transplantation (left half liver). Patient 3 was diagnosed with liver malignancies and hepatitis B cirrhosis. The diseased liver of patient 2 was implanted as a domino donor liver to complete domino liver transplantation, thus realizing a cadaver donor liver. Meanwhile, 3 cases of liver transplantation were completed, and all patients recovered smoothly after surgery.

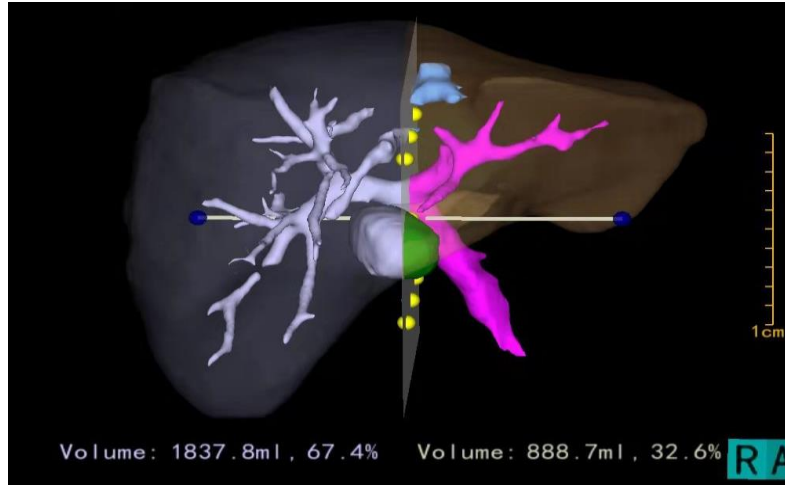


Liver supply allocation strategy

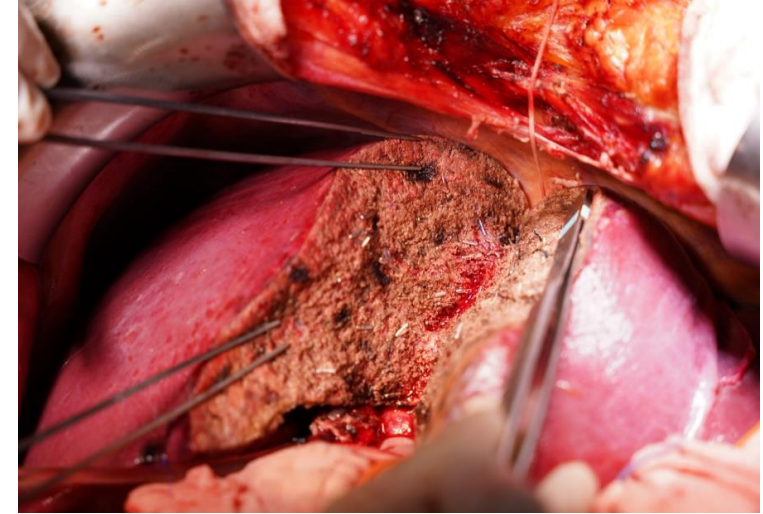
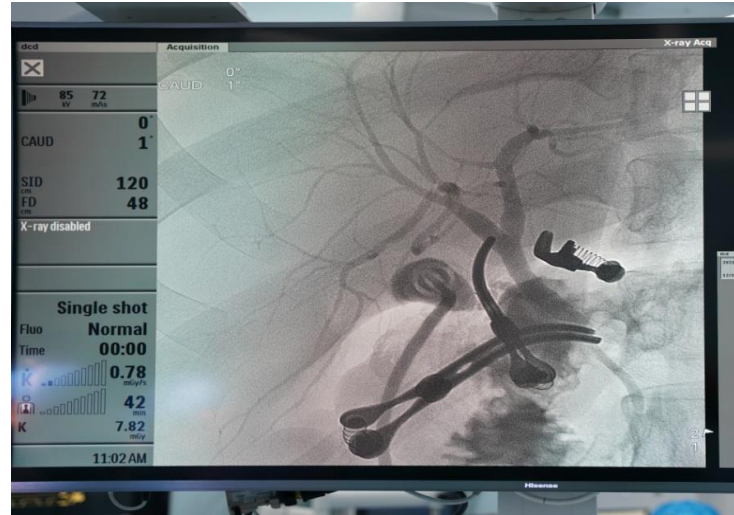
Split liver transplantation combined with domino liver transplantation

Cadaveric liver Donor	Recipients	
<ul style="list-style-type: none"> • Male, 31 years old • Blood type: A (+) • Height: 180cm • Weight: 120kg • BMI: 37 kg/m² • Diagnosis: Cerebral infarction 	<ul style="list-style-type: none"> • Yu, female, 40 • Blood type: A (+) • Height: 165cm • Weight: 64.5kg • BMI: 25 kg/m² • Diagnosis: Post hepatitis B cirrhosis 	<ul style="list-style-type: none"> • Zhu, male, 12 • Blood type: A (+) • Height: 166cm • Weight: 50kg • BMI: 18kg/m² • Diagnosis: Familial hypercholesterolemia
	<ul style="list-style-type: none"> • Su, male, 40 • Blood type: A (+) • Height: 168cm • Weight: 65kg • BMI: 23.9kg/m² • Diagnosis: liver malignant tumor, hepatitis B cirrhosis 	

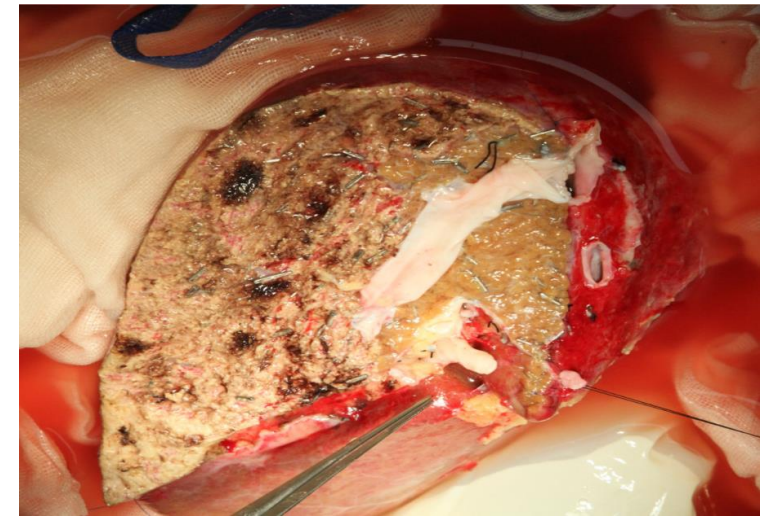
Virtual Reconstruction of donor liver



DBD liver splitting in vivo

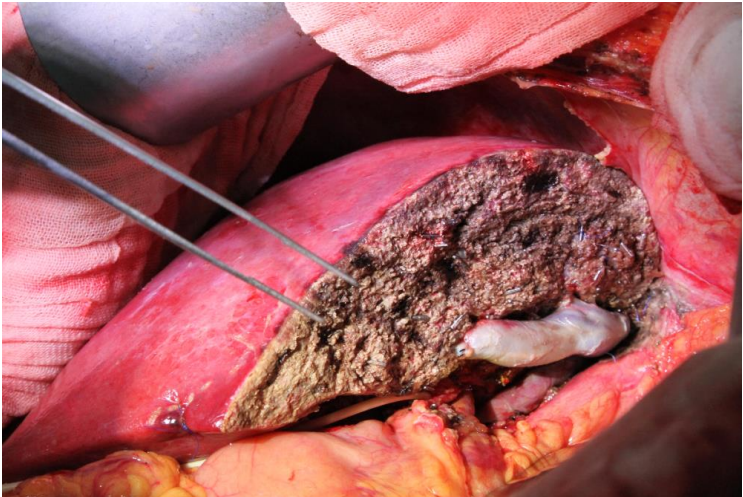


- Total volume of donor liver : 2726ml
- Left half liver volume (with middle hepatic vein): 888.7ml
- Right half liver volume : 1837.8ml
- Recipient Yu: weight 64.5kg, GRWR: 2.85%
- Recipient Zhu: weight 50kg, GRWR: 1.78%

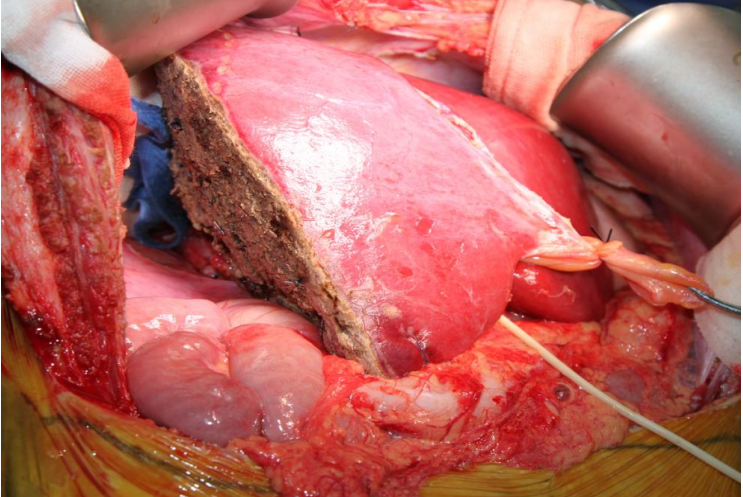


Split liver transplantation - New liver implantation

Right half liver
(reconstruction of V
and VIII segments)



P1



P2

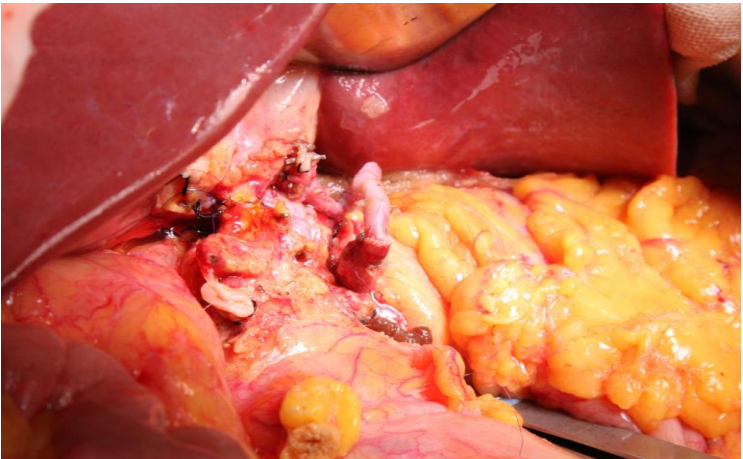
Left liver

Domino liver transplantation - donor liver harvesting/implantation

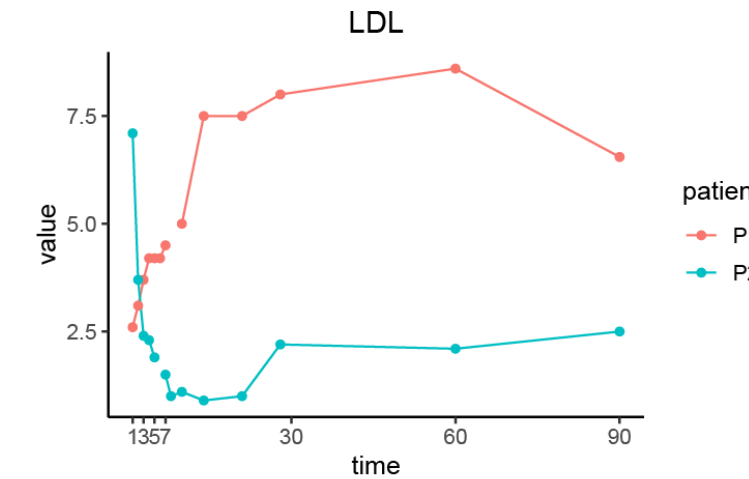
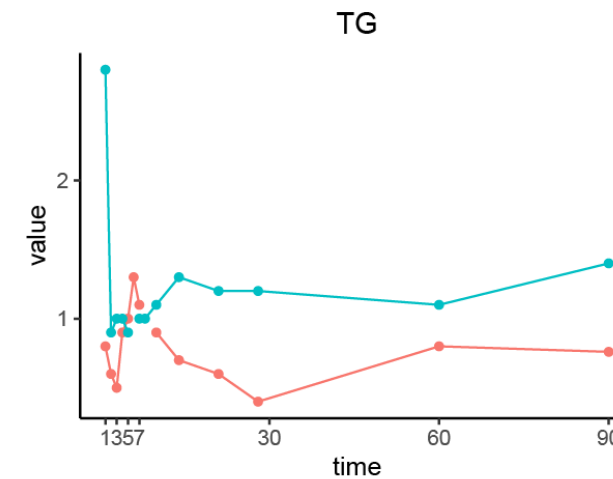
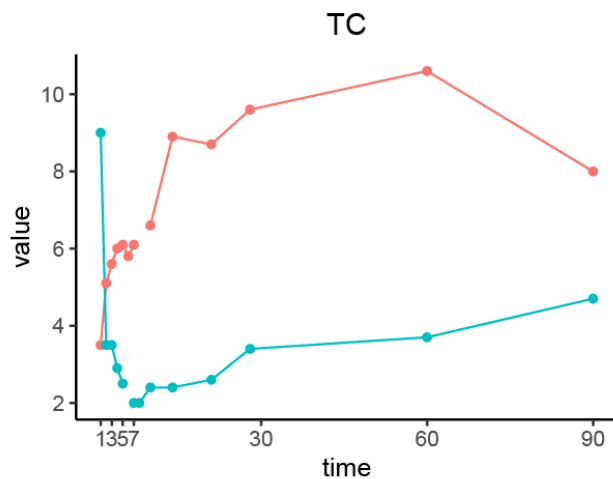
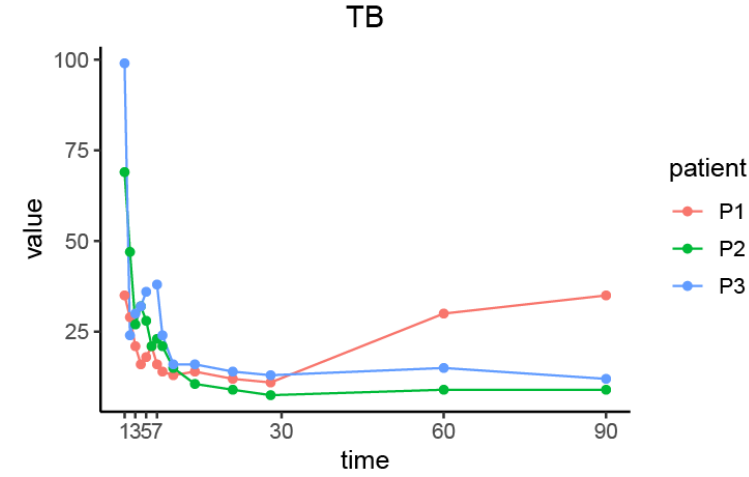
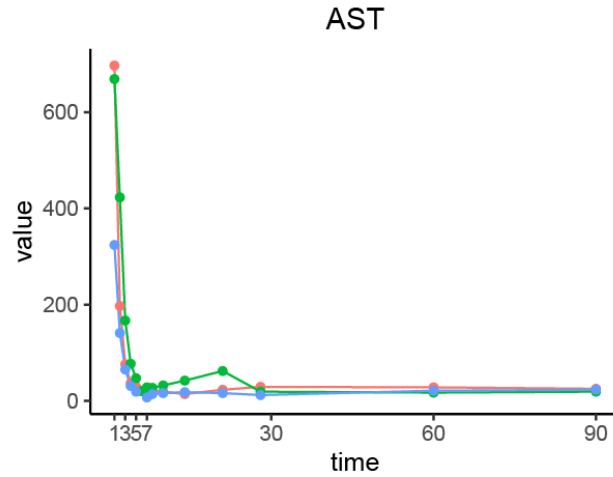
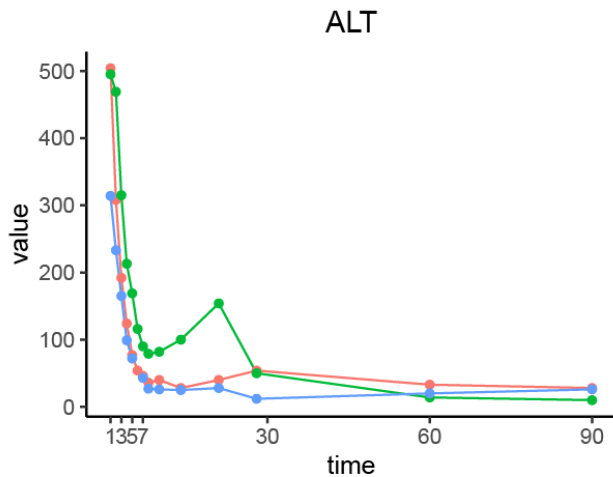
New liver
implantation



P3



Postoperative recovery



Split liver transplantation combined with domino liver transplantation



“Shan dong's first split + domino liver transplantation surgery was successful in Qingdao. It was new year eve in 2021 and most people spent it with their friends and relatives, but 14 surgeons and 3 patients with different liver diseases in the organ transplantation center of Qingdao University Hospital spent a meaningful New Year's Eve. After 18 hours of split + domino liver transplant surgery, they created a miracle of life transmission, which was the first time in Shandong Province.”

On Dec 31st , 2021, Professor Cai Jinzhen's team successfully completed **the first split liver transplantation combined with domino liver transplantation** in Shandong Province, achieving the miracle of **“one liver saving three people”**.

The first case of split liver transplantation combined with domino liver transplantation in Shandong Province