

Dear Editors and Reviewers:

Thanks for your letter and comments concerning our manuscript entitled "Auxiliary partial liver transplantation for acute liver failure using "high risk" grafts: case report" (ESPS Manuscript NO: 21420). Those comments are very valuable for us to revise and improve our manuscript. We have read them very carefully and made some modifications which we hope meet with approval. Revised parts are marked in red in the paper. The main modifications in the paper and the responds to the reviewer's comments are as followed:

Reviewer #1:

1. This is a very interesting case report of emergency auxiliary living donor liver transplantation in a patient with ALF. A significant number of grammar and language errors need addressing some of which I've already changed as comments edited in the manuscript.

Answer: Thank you for your valuable comments and warm-hearted help. We have corrected grammar and spelling errors which you noted in our manuscript. As Non-Native Speakers of English, we have also used language editing services to improve our manuscript after your review.

2. The authors should not only give the MELD score but also state that the patient fulfilled poor prognostic criteria as per Kings' College Hospital ALF classifications. This could be displayed in an appropriate graph showing the criteria for non acetaminophen induced ALF and the patient's parameters next to it.

Answer: Thank you for your valuable comments. King's College Hospital (KCH) criteria was one of the widespread prognostic system to identify ALF candidates for liver transplantation. According to the description given by O'Grady, the KCH criteria for non-acetaminophen ALF patients were as follows: pro-

thrombin time > 100 s or presence of any 3 of the following: prothrombin time >50 s, jaundice to encephalopathy time>7 days, etiology non-A, non-B hepatitis or drug induced hepatitis, age < 10 years or >40 years, serum bilirubin >300 µmol/L. Unfortunately, our young patient fulfilled the criteria, which indicated a poor prognosis. As you recommended, a table has been made to display the assessment. We updated these contents in our DISCUSSION part on page 9.

Table 1. Appraisal of King 's College Hospital criteria for non-acetaminophen acute liver failure in our patient

KCH* criteria	Patient's figures	Positive or negative
Prothrombin time > 100 s	62.0 s	Negative
Prothrombin time > 50 s	62.0 s	Positive
Jaundice to encephalopathy time > 7 d	13 d	Positive
Etiology non-A, non-B hepatitis or drug induced hepatitis	Drug induced hepatitis	Positive
Age < 10 years or > 40 years	32 years	Negative
Serum bilirubin > 300 µmol/L	433.6 µmol/L	Positive

*KCH: King's College Hospital

3. The patient was transplanted very rapidly following transfer I am amazed that all relevant investigations for the potential donor were performed within such a short period of time? Can the authors provide some information as to what additional diagnostic tests were performed apart from the usual hepatitis serology – HSV, EBV, CMV? Was there any imaging, copper studies etc?

Answer: Thank you for your comments and sorry for our confusing description in our manuscript. The young patient's condition deteriorated rapidly. When she was transferred to our hospital, she presented with constant coma (grade IV hepatic encephalopathy). An emergency liver transplantation was considered as the priority approach to save this young life at that time. So the work-ups for liver transplantation were completed very efficiently to make it possible that we could perform the operation the next day (not the admission day as we previously described. Sorry for our inaccuracy). While serological markers of hepatitis virus, herpes simplex virus and Epstein-Barr virus infection were negative, that of cytomegalovirus (CMV) showed positive. The Ganciclovir was administrated after transplantation. No copper studies or related imaging were available in our retrospective database. We updated these contents in our CASE REPORT part on page 6 and 7.

4. The authors should explain more in detail as to why they thought there was a small risk of donor liver hyperperfusion “functional small for size syndrome” and decided not to perform portal flow alterations or splenic artery manipulation. Did they think the native liver was indeed not too badly injured? Was the assumption that the native liver would receive and buffer some of that increase in portal flow versus risk of portal flow diversion into the small left lobe with subsequent non function.

Answer: Thank you for your comments. The report of recipient's liver biopsy demonstrated only a 50% hepatocyte loss, which suggested a good prognosis on the basis of previous study (see Ref.24). CT scan of her head revealed no signs of focal lesion or cerebral edema. The patient was at a young age with sufficient organ function reserves. We thought these factors would help our patient recover from ALF. In our case, the GRWR was 0.85%. According to the

Kyoto University standard, the implant was theoretically not a small-for-size graft. In addition to the GRWR > 0.8%, portal vein inflow shunting to native liver mass and delicate venous outflow reconstruction also contributed to the decreased risk of graft failure due to portal hyper perfusion. We updated these contents in our DISCUSSION part on page 10.

According to your valuable comments, we tried our best to improve the manuscript. Those modifications will not influence the content and framework of the paper. We appreciate for Editors/Reviewers' warm work earnestly and hope that the revisions will meet with approval.

Once again, thank you very much for your comments and suggestions!

Best regards,

Jia-Hong Dong

Xi-Tao Wang

e-mai: wangxt301@163.com