Answer to reviewer 02908399 :

- Firstly, in the pool analysis we just included primary transplants, we excluded retransplant and urgent transplant. Secondly we did not include any DCD, just DBD donors.
- This is the description of how flowmeter works in one previous article we done, but we will add the description in the material and methods section : Purpose of the measurement of intraoperative hepatic hemodynamics in liver transplant surgery **Journal Article** published **22 Mar 2019** in **Archives of OrganTransplantation** on pages **001** to **004**Authors: Lozano Pablo https://doi.org/10.17352/2640-7973.000011

  The measurement of the intraoperative flows is made with a VeriQ™ flowmeter (Medistin, Norway), VeriQ™ offers both proven transit time flow measurement (TTFM) and Doppler velocity measurements that are specifically designed for intraoperative blood flow and graft patency verification. The Doppler effect uses the transmission of a continuous wave and the MFTT employs the transmission of pulses. By applying the Doppler concept on the components of the blood, we can measure the vessel blood flow velocity. If the sound is directed in the direction of flow, the received signal will be different depending on whether the blood components are near or far from the transducer. The sensor used by the MFTT contains two transducers and a reflector. The two transducers are located on one side of the vessel and the reflector on the opposite side, this arrangement causes a double ultrasound passage through the vessel.The crystal located in the direction of flow generates a pulse of ultrasound that is captured by the glass of the opposite direction. The difference in transit time will depend on the volume

of blood flow.Measurement probes of a 5-7mm caliber are used for the hepatic artery and of 8-12 mm for the portal vein. Once the vascular anastomoses have been performed, a brief period of about 5 minutes is allowed in order for the intrahepatic flows to settle, then the arterial and the portal flows are measured sequentially at one centimeter distal to the suture, on the side of the graft.In cases where the arterial intraoperative flow measured is absent or very poor, the revision of the arterial anastomosis is indicated, once the absence of compensatory effect of the portal flow ("hepatic arterial buffer effect") has been prove

- As we could see HAF was significantly lower in the group with EAD (227.74 ±134.13 ml/min) when compared to the no-EAD group (279.67 ±152.87 ml/min), p=0,01 and PVF was significantly lower in the group with EAD (1363.84 ± 602.06 ml/min) when compared to the no-EAD group (1606.73 ±491.51 ml/min), p=0,01. We chose HAF < 180ml/min and PVF < 1200 ml(min because is the better value that discriminated between EAD and no EAD (Figure 2 and 3)
- Olthoff criteria could lead a false positives because the range of EAD is wide definition that include parameters like bilirubine < 10mg/ml in the 7day that it could be due to previous recipient condition, moreover to have a AST or ALT more than 2000ml/min at the first two day is something common and that do not lead to EAD.
- We did not suggest that a decrease arterial flow is worse than portal flow, we just suggest that both could help in define EAD or the need of retransplant in the

postoperative time. Our cutoff for PVF is <1200ml/min, in other articles they choose the cut off <1300ml/min to start to do some maneuvers, this is a recent approach but in our sample we have not needed to do this maneuvers.

Answer to reviewer 02944625

Thanks for your comments. We did not measure spleen size, portal flow before transplant, arterial blood pressure or hematocrit in this study but we are carrying a prospective study recording this variables.

We took in account the best measure, if we identified low flow we try to improve it in the intraoperative field.

Answer to reviewer 02584466

I have tried to modify that aspect of my manuscipt. Thanks for your comments.