

As we know, the thoraco-abdominal NRP technology is very novel, which is very helpful for the improvement and evaluation of abdominal organs, and increases the use of marginal donors. This article describes the indications and technical aspects of the simultaneous retrieval of thoracic and abdominal organs in Maastricht III donors, as well as the preservation of such organs until their implantation. Using thoraco-abdominal NRP technology to maintain the stability of the circulatory system, providing conditions for the procurement of the heart and lungs, improved the cardiopulmonary function of the donor and enhance the utilization rate of organs, this is a good improvement measure. There are still several points to be elaborated , 1. Are there other indicators besides ALT and AST to assess liver function ; 2. Whether extending the length of NRP can improve liver and kidney function.

Answer: We use abdominal normothermic regional perfusion (nRP) with extracorporeal membranous oxygenation (ECMO) devices to restore blood flow after the determination of death and prior to organ recovery in cDCD. Before the WLST the aortic occlusion balloon was filled in, for just 3 seconds, in order to confirm that the arterial pressure from the femoral arterial cannula disappeared while the pressure of the left artery line was maintained. This meant that was an adequate blocking of the thoracic aorta. Immediately after, the balloon was emptied again. Once nRP had started the arterial pressure from the left radial artery disappeared with an adequate blocking of the thoracic aorta while the pressure from the femoral arterial cannula was maintained, but as a continuous, non pulsatile pressure because it was provided by the ECMO device. Blood samples from the ECMO device were obtained just after starting nRP and at least every 30 minutes. Biochemistry analysis, serum lactate levels and hematocrit were analyzed. If Alanine transaminase (ALT) or Aspartate transaminase (AST) levels at 30 or 60 minutes after nRP were over 4 times the normal values, the liver was discarded even with a normal macroscopic appearance. We have observed improvement in liver and kidney function not only in the experience of our centre, but also in the experience of other centres in the multi-centre studies we are conducting.