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Superior Outcomes Using Normothermic Regional Perfusion in CDCD Liver Transplantation

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While there is increasing interest in its use, definitive evidence demonstrating superiority of normothermic regional perfusion in controlled donation after circulatory death liver transplantation has not been presented. Unlike the rest of the Western world, where use of NRP has been anecdotal, 25% of all cDCD donors that have been performed in Spain since 2012 have included post-mortem NRP.
Aim: Analyze the first years of the Spanish experience with cDCD liver transplantation, in particular regarding the impact post-mortem NRP has had on organ utilization rates and transplant outcomes.
Methods: Data was collected regarding potential cDCD liver donors and transplants that resulted between 2012 and 2016. All transplants had at least 6 mos of follow-up. Each donor hospital determined the process by which organs were recovered: NRP with pre-mortem cannulation, NRP with post-mortem cannulation, or super rapid recovery.
Results: From 2012 to 2016, 370 potential cDCD liver donors were evaluated: 152 with NRP and 218 with SRR. Ultimately, rates of liver transplantation were 64% NRP and 57% SRR (P=0.102). Among livers that were transplanted, median donor age was 57 (46-65 IQR). While there were no differences in terms of relevant donor or recipient characteristics when analyzed according to recovery method, the functional warm ischemia time was shorter when NRP was applied – 12 (10-16) NRP vs. 15 (11-20) SRR – given that in most cases femoral cannulae were placed prior to withdrawal of care. While rates of early allograft dysfunction (22% NRP vs. 29% SRR) and PNF (2% NRP vs. 4% SRR) did not vary, rates of overall biliary complications (9% NRP vs. 24% SRR, P=0.006) and ITBL (2% NRP vs. 12% SRR, P=0.01) were significantly improved among recipients of livers recovered with NRP. One-year graft survival was 87% NRP vs. 78% SRR (P=0.110). On multivariate analysis analyzing risk factors for ITBL (including fWIT), the only significant factor was the organ recovery method used.
Conclusions: This is the first large series describing the application of NRP in cDCD liver transplantation. While results with SRR were acceptable, results using NRP were superior and comparable to those achieved using standard-quality livers, even in spite of advanced donor age.

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The Customized Design of Hospital-Level Deceased Organ Donation Quality System in China for Continuous Improvement

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Background: The national deceased organ donation program has been launched in China since 2010, marking the beginning of the new year in organ donation (OD) and transplantation in China. An increasing trend has been observed since the implementation of the program. Deceased OD rate (PMP) in China reaches 2.98 in 2016 (a total of 4080 cases). This sharp increase granted China the second largest countries in the world in term of absolution number of deceased OD. Since the kick-off of the national deceased OD program in China, more than 100 Hospital-based Organ Procurement Organizations were created in different regions for managing OD activities. While the number is increasing, attentions should also be paid to patient safety as well as the quality and efficiency of the service. Developing a quality assurance program for OD at hospital level is a first step to tackle this issue. Therefore, a study was designed to develop Organ Donation China Quality System (ODCQS) for continuous improvement at hospital level.
Methodology: An internal collaborate network of experts from different area is created for the design and testing of ODCQS.The framework of European Quality System, a subset of Quality Criteria (QC) and Quality indicators (QI) (for structure, process and outcomes) developed during ODEQUS project and tested in 12 EU hospitals, was used as base for the development of the ODCQS. 27 QC and QI for the OPO and 19 for the donor hospital were included in the ODCQS. QI were used to assess and evaluate the efficiency of the donation model at hospital level in terms of structure, process and outcomes. The Indicators have been standardized. Definition, calculating formula, benchmark, and reference are specified in the system for each indicator. The criteria focusing on legislation for OD and procurement were designed according to national regulation on organ procurement. The system is broken down into three clinical pathways following the China deceased OD category (C-I/C-II/C-III). A pilot study to further evaluate the flexibility of ODCQS is being done in 2 OPO and several donor hospitals.
Results: A system of respectively 27 and 19 QC and QI for OPO and Donor hospitals is developed to measure the performance of hospital-based organ procurement organization and donor hospital separately via internal or external auditing in China.
Discussion: ODCQS will serve as an effective tool for hospital-based organ procurement organization (OPO) and donor hospital to measure the progress achieved in OD, as well as to provide sound scientific data to support the development the best clinical practices/model of its own. In additional, ODCQS also provides a unify mechanism to homogenize the OD process in the regional even national level and facilitate benchmark comparison among collaborative network of hospitals.