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Enhancing Liver Transplantation through Utilization of Donation After Cardiac Death Donors: Insights from a High-Utilization Center

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Introduction: As organ scarcity persists, donors after circulatory death (DCD) present an alluring avenue to augment the donor pool, potentially offering transplantation possibilities for patients hitherto excluded. Yet, DCD donors have been historically regarded as a less optimal choice compared to brain-dead donors, spotlighting a critical facet in the decision-making process in liver transplantation.

Methods: Retrospective analysis of prospectively collected data of patients who underwent DCD liver transplantation at the Miami Transplant Institute from 2019 to 2022. Variables included clinical and demographic features, surgical indicators, and post-transplant outcomes. Statistical analysis involved a range of tests: Student t-test for continuous variables like patient age and cold ischemia time, and chi-square test for categorical variables like donor age and graft survival. Statistical significance was set at a p-value of <0.05.

Results: 93 patients, the study cohort comprised predominantly males (83.9%), with a median age of 59 years (range: 22 77). The median MELD score stood at 18 (IQR 14 52). Technically, total portal arterialization (TPA) was utilized universally (100%). Bile duct anastomosis employed an interrupted approach in 34 patients (36.6%). The median agonal phase spanned 19 minutes (IQR 15 24). Median cold ischemic time clocked in at 314 minutes (IQR 270.6 367.5), while median total warm ischemic time was 49 minutes (IQR 43 55). Follow-up extended to a median of 15.4 months. The apex AST peaked at 3514 (IQR 2084.5 5100.75), and peak ALT stood at 1732 (IQR 890 2701). Median ICU stay spanned four days (IQR 3 8), with graft rejection experienced by 10 patients (10.7%). The study reported a commendable 1-year patient survival rate of 92.47% and a 1-year graft survival rate of 97%.

Conclusion: DCD liver transplantation offers a valuable opportunity to expand the pool of organ donors and provide life-saving transplantation for patients with end-stage liver disease.