



Liver Transplantation from very old DCD donors: a single center experience

Borin A¹, Bosio C¹, Bortolasi L¹, Bronzoni C¹, Diamantis A.M¹, Cismaroiu I.D¹, Scoccati G¹, Casartelli Liviero M², Gottin L³ and Carraro A¹

¹ Liver Transplant Unit, Department of Surgery and Oncology, University and Hospital Trust of Verona, Verona, Italy

² Neurosurgery and Intensive Care Unit, Department of Surgical Science, University and Hospital Trust of Verona, Verona, Italy

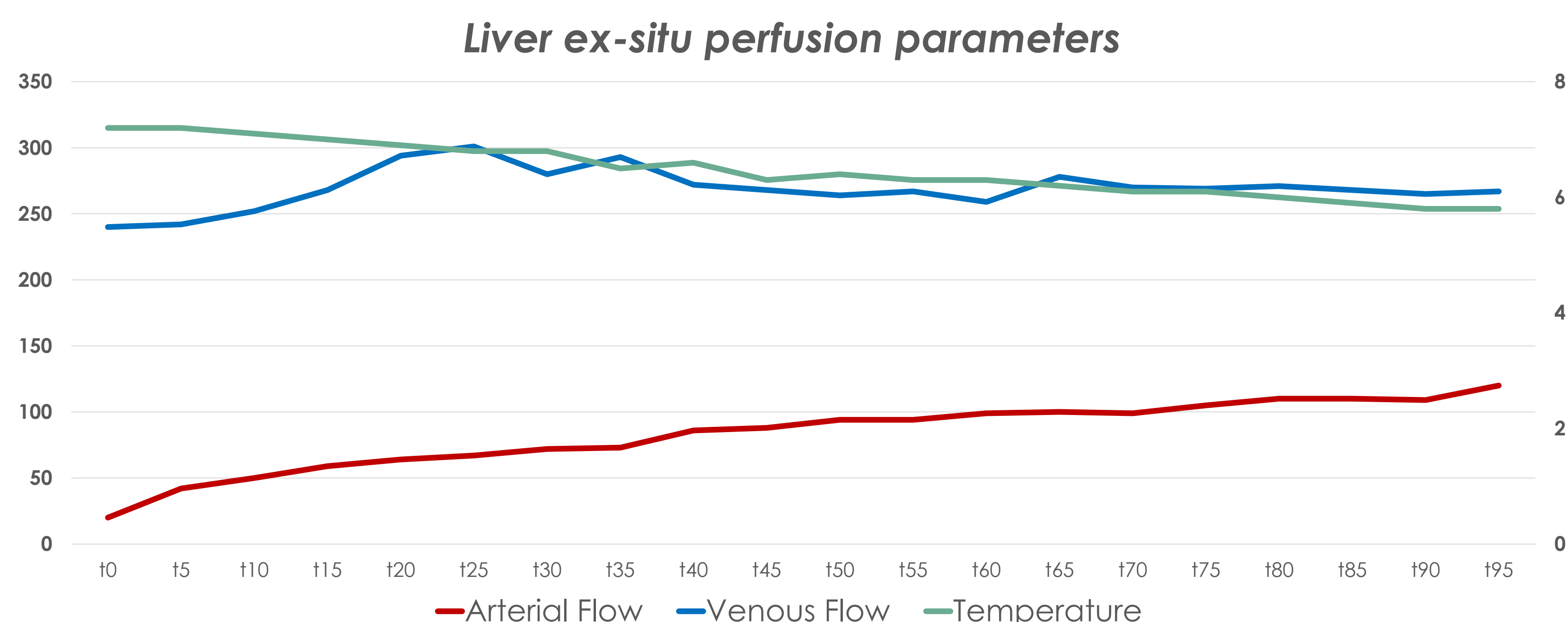
³ Intensive Care Unit, Department of Surgery, Dentistry, Maternity and Infant, University and Hospital Trust of Verona, Verona, Italy.

Introduction

The growing demand for organs, coupled with an aging general population, has led to increased consideration of elderly donors. While the use of very old donors is now widely accepted in the context of donation after brain death (DBD), such donors have often been excluded in donation after circulatory death (DCD). However, following positive outcomes in selected cases, there is growing interest in expanding the use of marginal DCD, particularly those of advanced age.

Methods

We report our experience with DCD-LT from donors >75 years, comparing results with those from donors <75 years. All DCD were Maastricht type III performed with normothermic regional perfusion adopting the PerLife system for ex-situ machine perfusion MP with the following target parameters: Temperature (T) = 5-7°C; Pressures: Arterial (TAP) = 25-40 mmHg; Portal (TVP) = 4-6 mmHg. T, TAP, TVP, flows and resistances were continuously monitored.



Results

From November 2021 to December 2024, our center performed 38 DCD-LTs: 9 from donors >75 years and 29 from donors <75 years. The two groups were similar in terms of age, BMI, and cirrhosis severity (median age: 61 vs. 63 years, $p = 0.34$; BMI: 23.2 vs. 24.8, $p = 0.21$; MELD-Na: 17 vs. 16, $p = 0.97$). MP was used in 5/9 (56%) of DCD >75 and 17/29 (59%) of DCD <75. Functional warm ischemia time was similar (36 vs. 39 minutes), while cold ischemia time was longer in the <75 group (261 vs. 164 minutes, $p = 0.42$). One case of primary non-function occurred in the DCD <75 group. Early allograft dysfunction rates were similar (22.2% vs. 20.7%). The DCD <75 group had a higher peak ALT (579 vs. 436 U/L, $p = 0.12$) and a higher rate of acute kidney injury (31% vs. 11.1%, $p = 0.23$). The median follow-up was 17 (8–31 vs 3–48) months, biliary stricture rates were 11.1% vs. 20.7% ($p = 0.46$).

Conclusion

Our initial experience suggests that liver transplantation from elderly DCD (>75 years) yields acceptable results and is not inferior to standard DCD when appropriate patient selection and modern preservation technologies are used.