

Dual Hypothermic Oxygenated Perfusion in Liver Transplantation: 3-years Single Center Experience

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Introduction

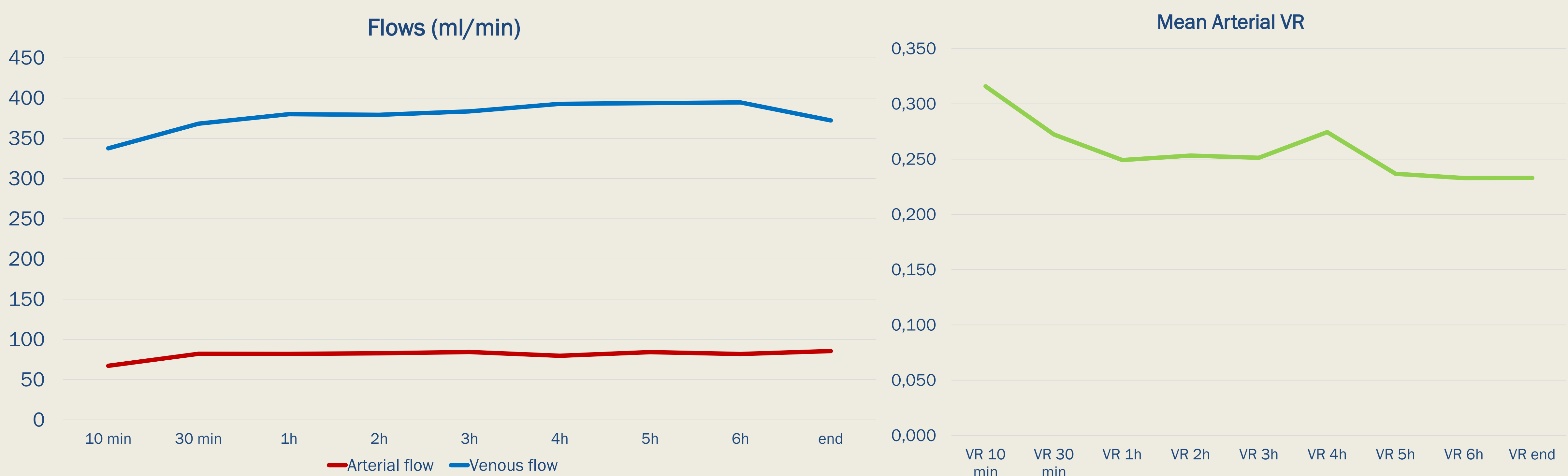
Dual hypothermic oxygenated machine perfusion (DHOPE) represents an established strategy to optimize liver grafts preservation, which have already showed both short-term and long-term positive outcomes in grafts from donors after brain death (DBD) and after cardiac death (DCD). We report our experience with DHOPE routine application in the treatment over 60 grafts for transplantation.

Methods

We retrospectively analyzed 63 consecutive liver transplants performed after DHOPE with PerLife system, using a standard Belzer MPS perfusion solution. Temperature was maintained between 4-8°C. Perfusion pressure targets were: 25 mmHg for artery and 5 mmHg for portal vein. Oxygenation was guaranteed supplying 1 L/min pure oxygen to the perfusate. Perfusion parameters (arterial/portal flows, vascular resistances), metabolic markers (lactates trend), and hemodynamic stability were monitored. Perfusate samples were collected at treatment start (t0), 30 minutes after t0 and, afterwards, hourly until the end (tend). Procedure and Post transplant outcomes were recorded.

Results

Between april 2022 and april 2025, 63 grafts underwent DHOPE (48 DBD, 15 DCD). Mean perfusion time was 240 min. Mean donor age was 69 years. An increasing trend in vascular flows was observed overtime. In few cases arterial reconstrucion was performed in machine after portal vein perfusion. Overall, no device associated graft problems were recorded.



Conclusion

This single-center experience, with routinely performed DHOPE treatments, furtherly confirms the currently available evidences of the safety and the efficacy of this kind of treatment application in liver transplantation.