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Device to Assess Viability of Donor Livers

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MCW 2218

Existing Problem

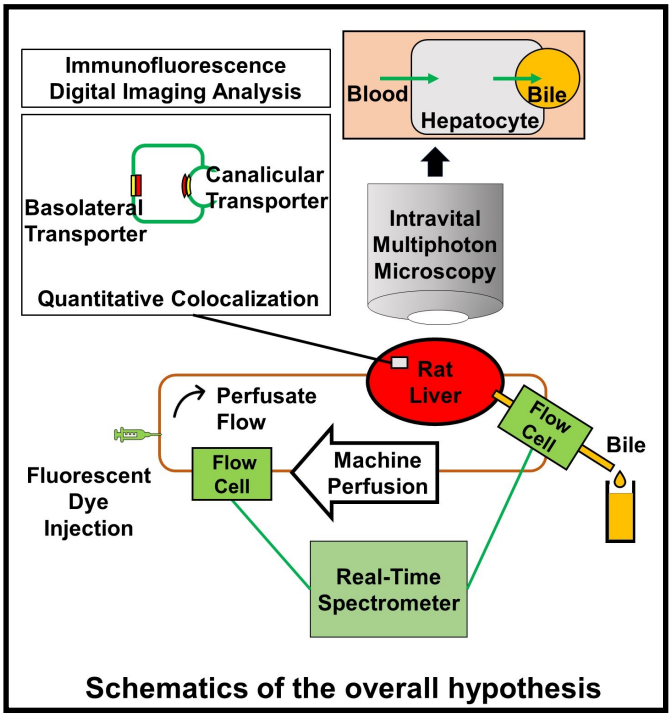
A method to assess viability of livers for transplant is critically needed. Current approaches are not only impractical, but also have shown disappointing discriminatory power to predict viable organs for transplant. As such, there is no useful method to determine the viability of liver organs for transplantation.

Problem Solved

The invention is a diagnostic device that measures the integrity of the bile metabolism in real time and that can be attached to a portable liver perfusion system. The device leverages the rate of transport of certain fluorescent dyes into bile as an indicator of viability. The device will monitor the outflow of bile from donor liver in machine perfusion after the injection of fluorescent markers, through real-time monitoring using fluorescence spectroscopy.

Application

Monitoring system added as a component to normothermic perfusion devices provides real-time diagnostic monitoring capability. Useful during organ transport. Easily refreshed data offers up-to-the-minute assessment of liver viability pre-transplant.



Schematics of the overall hypothesis

Key Advantages

- **Real-time assessment of donor livers—a valuable resource**
- **Adaptable to current liver perfusion machines.**

Stage of Development:
Design stage

Intellectual Property Status:
US Patent filed December 2021,
Foreign rights available

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