

Back Bench Time: The Hidden Factor of Ischemia in Liver Transplantation

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Abstract

Ischemia time is a well-established determinant of liver transplant outcomes. Patient survival is substantially affected by prolonged warm (WIT) and cold ischemia time (CIT) of the graft during liver transplant. One component that may be a contributing factor to both WIT and CIT is back bench time (BBT). We have identified BBT as a potentially significant underlying cause of post transplant complications. A literature search was performed using the major available databases. Articles comparing grafts using normothermic machine perfusion and static cold storage with measured WIT and CIT, and post-transplant outcomes, were included. A total of 18 studies were selected; however, we were only able to identify two studies that refer to BBT. In this systematic review, we conclude BBT is a modifiable factor of ischemia that may be impacted by the surgeon experience and requires more in depth studies to fully understand a safe threshold and its effect on post transplant outcomes such as EAD, IC, and graft survival.

Keywords: back bench time, back table time, warm ischemia time, cold ischemia time, normothermic machine perfusion, static cold storage, graft survival, patient survival, early allograft dysfunction, ischemic cholangiopathy, post transplant outcomes