# Evaluation of systemic hemodynamic effects on post-transplant perfusion to renal allograft.

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## 摘要

## Abstract

Hemodynamic parameters and post-transplant renal perfusion were evaluated in 24 cadaver kidney transplantation. Cardiac output (CO), systemic vascular resistance (SVR) and mean arterial pressure (MAP), were continuously monitored in each patient via a transesophageal Doppler cardiac output monitor and radial arterial catheter. Seventeen were well perfused (Group 1) after releasing vascular clamps. Six among group 1 presented as the clinical picture of acute tubular necrosis. Seven were poorly perfused (Group 2). Post-anastomotic CO significantly increased in group 1, and decreased in group 2. SVR significantly decreased in group 1, and increased in group 2. MAP were not significantly different between group 1 and 2. Treatments based on hemodynamic derangement were initiated as soon as it was detected. Correction of CO was associated with the improvement of post-anastomotic renal perfusion, while SVR and MAP were not. Among the 7 poorly perfused kidneys, 5 became well perfused before leaving the operating room. The remaining 2 resumed their hemodynamic stability and renal function a few days later after oral captopril was administered. Two among the 6 acute tubular necrosis resumed renal function as long as hemodynamic stability was restored. Our study demonstrates that hemodynamic parameters are parallel to renal perfusion status. Restoration of hemodynamic derangement not only improves renal perfusion but also renal function. It is concluded that hemodynamic instability and graft ischemic time contribute to the variation of post-transplant perfusion to renal allograft. Non-invasive cardiac output monitor is a safe and reliable monitor which we recommend to be used during the operation of kidney transplantation.