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**Title: New Onset Congestive Heart Failure after Kidney Transplantation**

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The pathogenesis of congestive heart failure (CHF) may be different than that of atherosclerotic cardiovascular disease, and little is known about CHF before and after kidney transplantation (KTX). We examined the incidence of CHF during the first 36 months after KTX among 33,507 Medicare patients, 1995-2001, in the US. CHF was identified by Medicare claims, and patients with CHF prior to KTX and/or ESRD (on ESRD Medical Evidence Form 2728) were eliminated. Relative risk was determined using Cox proportional hazards analysis. We also compared risk after KTX with risk on the waiting list for 41,137. The cumulative incidence of CHF was 7.9%, 17.9% and 26.9% at 1, 12 and 36 months after KTX. Risk factors for CHF after KTX (adjusted relative risk each p<0.05) included: age 0-17y (0.74), 35-49y (1.49), 50-64y (2.35) and 65+y (3.13), v. 18-34y (reference=1.00); Hispanic (0.87) v. non-Hispanic; cause of disease = diabetes (1.43), hypertension (1.17) and cystic kidney disease (0.76) v. glomerulonephritis; living donor (0.90) v. deceased donor; donor age 35-49y (1.15), 50-64y (1.27) and 65+y (1.46), v. 18-34y; donor ethnicity black (1.15) v. white; prior dialysis duration, none=preemptive (0.66), 1-2y (1.28), 2-3y (1.35), 3+y (1.58) v. <1y; body mass index (BMI, kg/m<sup>2</sup>) <18.5 (1.14), 30-34.5 (1.24), 35+ (1.25) v. 18.5-25.9; MHC mismatches 4 (1.09), 5 (1.15) and 6 (1.18) v. 3; azathioprine at discharge analyzed by intent-to-treat (0.91) v. no azathioprine; mycophenolate (0.91) v. no mycophenolate, sirolimus (1.47) v. no sirolimus. Not significant were black v. white ethnicity, KTX era 1999-01 v. 1995-96, male v. female, and calcineurin inhibitors v. no calcineurin inhibitors. In a separate analysis the risk of CHF after KTX was reduced (relative risk = 0.76, 95% CI = 0.73-0.80, p<0.0001) compared to the risk on the deceased donor waiting list. CHF is common after KTX and risk factors include age, ethnicity, cause of kidney disease, donor type, donor age, donor ethnicity, prior dialysis duration, BMI, MHC mismatches, and immunosuppressive agents used at the time of discharge.