

800 End-Stage Kidney Disease and Kidney Transplantation in HIV-Positive Patients

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Background: HIV positive individuals are at increased risk of end-stage kidney disease (ESKD). We describe the clinical epidemiology and outcomes of HIV/ESKD in the UK CHIC Study including eligibility for and use of kidney transplantation (KT).

Methodology: Observational cohort study of patients in UK CHIC who received permanent renal replacement therapy between 01/2000 and 12/2011, with follow up to 12/2012. Cases were identified by review of all patients with stage 5 chronic kidney disease and by searching local renal databases. ESKD incidence and prevalence rates were calculated, Poisson regression was used to identify factors associated with ESKD, Kaplan-Meier methods to estimate survival rates, and the log rank test to compare survival curves.

Results: Of 27817 patients, 112 (0.4%; median age 38 years, male 69%, black ethnicity 64%, HIV-associated nephropathy 46%, median eGFR at baseline 22 mL/min/1.73m²) had a diagnosis of ESKD. Throughout the 12 year study period, the ESKD incidence remained stable at 1.12 (95%CI 0.80, 1.44) and 0.23 (0.15, 0.31) per 1000 person-years of follow up for patients of black and non-black ethnicity respectively. The ESKD prevalence increased from 4.4‰ in 2000/2001 to 10.7‰ in 2010/2011 among black individuals (p=0.01) and remained stable around 1.8‰ for non-black ethnicities (p=0.78). Factors associated with ESKD in multivariable analysis were: black ethnicity (IRR 2.72 [95%CI 1.38, 5.37]), age (1.42 [1.12, 1.81] per 10 years), CD4 cell count (0.93 [0.88, 0.99] per 50 cells increase), HIV load (0.44 [0.23, 0.84] per log₁₀ copies/mL), hepatitis B (2.73 [1.27, 5.86]) and hepatitis C (2.50 [1.09, 5.77]) co-infection. From 2005 onwards, kidney transplantation (KT) was increasingly used to treat ESKD so that by 12/2012, of the 71 patients still alive and under follow up, 31 (44%) were post-KT, 27 (38%) were being worked up or awaiting KT (pre-KT), and 13 (18%) were permanently unsuitable for KT. During this period, the one and five year survival estimates were similar for patients pre-KT and post-KT (100% and 94% at one year, and 89% and 85% at five years respectively, p=0.53), while survival for those unsuitable for KT was substantially worse (83% and 46% at one and five years, p<0.0001).

Conclusions: In the era of combination antiretroviral therapy, the incidence of ESKD has remained stable while the prevalence in black patients continues to increase. Low mortality was observed among patients with ESKD who were eligible for transplantation irrespective of whether they were maintained on dialysis or successfully transplanted. As the majority of patients have advanced kidney disease at the time of HIV diagnosis, ESKD prevention strategies should include efforts to diagnose HIV infection earlier, especially in those of black ethnicity.