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P200 -PRE-OPERATIVE LEFT VENTRICULAR DYSFUNCTION AND POST KIDNEY TRANSPLANT COMPLICATIONS: A SINGLE-CENTRE ANALYSIS

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INTRODUCTION. Published society guidelines differ in their recommendations for routine pre-operative echocardiograms for kidney transplant candidates leading to heterogenous clinical practise. At our transplant centre, echocardiograms are performed for all kidney transplant candidates and routinely repeated every three years as surveillance while awaiting transplantation. Left ventricular (LV) dysfunction has been associated with increased mortality post-transplantation in some studies but evidence remains limited. The aim of this single-centre retrospective study was to determine if pre-operative LV dysfunction is associated with post kidney transplant complications in our cohort.

METHODS. Data was extracted from hospital informatics systems for all kidney allograft recipients transplanted between 2007 and 2018. Electronic patient records were then manually searched for the most-up-to-date pre-operative echocardiogram to facilitate data linkage. We excluded recipients with missing pre-operative echocardiogram reports (predominantly due to external referrals for transplantation). Mortality, graft loss, delayed graft function, 1-year rejection and 1-year creatinine values were crosschecked with the UK Transplant Registry. Pre-operative LV dysfunction was classified as any male or female individual with an LV ejection fraction under 52% or 54% respectively, in accordance with latest recommendations from the American Society of Echocardiography and the European Association of Cardiovascular Imaging (Lang et al. Eur Heart Journal 2016).

RESULTS. Our total cohort for analysis consisted of 691 kidney transplant recipients (median follow 1,444 days [IQR 608 to 2,499 days]). Pre-operative LV dysfunction was observed among 7.7% of kidney transplant recipients. We did not identify any association between LV dysfunction and age, gender, recipient body mass index, ethnicity, diabetes status or dialysis status. There was no difference in risk for prolonged post-operative admission stay, delayed graft function, allograft rejection, emergency re-admission within 90-days or any hospital admission related to cardiovascular cause stratified by LV dysfunction. Graft function at 1-year among surviving kidneys showed worse estimated GFR (in ml/min) among recipients with versus without LV dysfunction (46.0 versus 52.8 respectively, p=0.045). Recipients with pre-transplant LV dysfunction had significantly increased risk for death after kidney transplantation (17.0% versus 8.6% respectively, p=0.046) and borderline increased risk for death-censored graft loss (28.3% versus 18.7% respectively, p=0.068). Risk for overall graft loss was more common among recipients with LV dysfunction compared to those without (39.6% versus 23.8% respectively, p=0.011). However, in a Cox regression model after adjustment for baseline demographics, LV dysfunction was not found to be an independent risk factor for mortality.

DISCUSSION. In our single-centre analysis, pre-operative LV dysfunction is associated with post-transplant all-cause mortality, overall graft loss and worse 1-year graft function. However, after adjustment for baseline variables, LV dysfunction drops out of the Cox regression model as no longer significant for all-cause mortality. A clear limitation of our study is the inherent selection bias as this cohort only includes candidates who proceeded to kidney transplantation. With this limitation in mind, our data suggests LV

dysfunction by itself should not preclude potential kidney transplant candidates but should alert transplant professionals to more heightened risk for targeted counselling.