

P028 L-citrulline as a surrogate index of nitric oxide production in kidney recipients

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Assessing circulating surrogate biomarkers of NO production (i.e. nitrite and L-citrulline) in patients receiving renal replacement therapy is important for our understanding of renal allograft outcome. The aims of this study were to develop an improved spectrophotometric method for the measurement of L-citrulline in plasma. Recipients of first kidney [age range: 30-60 years, n=13] were recruited. Sampling schedule commenced at day -1 (pre-transplantation) and post transplantation day 1 up to day 14 (everyday) and on day 21). At day -1 (i.e. pre-transplantation), mean plasma levels of L-Citrulline were 20 μ M. At day 3 post transplantation, the levels dropped by about 50% ($P < 0.05$). In patients with troublesome crises, alteration in L-citrulline concentrations more pronounced and preceded those of creatinine or blood urea nitrogen. These findings suggest assessment of plasma L-citrulline levels may prove a useful diagnostic tool in conjunction with routine markers of renal function (i.e. creatinine as well as BUN) in predicting renal allograft outcome.