

Abstract

Introduction: Our studies were focused on the effect of frailty and frailty examination utilization in older kidney transplant candidates and recipients. The first study assessed frailty in older transplant candidates. The second analysis assessed the effect of frailty on the humoral response to the BNT162b2 COVID-19 vaccine.

Methods: Patients older than 70 years were enrolled. Frailty was examined by Fried frailty phenotype criteria and comprehensive geriatric assessment (CGA). Frailty evaluation was conducted in the registered study No. NCT06104696.

Results: Frailty was a predictor for all outcomes in pilot analyses of the first study: waitlisting for transplantation (HR=0.26, CI95% 0.11-0.57, $p=0.001$), transplantation (HR=0.52, CI95% 0.35-0.77, $p=0.001$) and mortality (HR=1.75, CI95% 1.05-2.9, $p=0.03$). In the second study pre-frail (OR = 0.27, 95% CI 0.07–1.00, $p = 0.050$), and frail status (OR = 0.14, 95% CI 0.03–0.73, $p = 0.019$) were associated with an increased risk of unresponsiveness to SARS-CoV-2 vaccines.

Conclusion: Based on the results of pilot analyses of our first study frailty evaluated by CGA is a predictor of mortality among older kidney transplant candidates, as well as waitlisting for transplantation and transplantation itself. This observation supports our baseline hypothesis, that frailty might predict, which older kidney transplant candidates will benefit from kidney transplantation in the future. Furthermore, frailty was associated with worse humoral response to the vaccine among older kidney transplant recipients.