Title: Correlation between vitamin D, parathormone, creatinine and functional capacity of patients with end stage renal disease

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Body: Background: It is not clear how functional capacity status is related to serum concentrations of vitamin D, creatinine or parathormone on patients in haemodialysis. Objective: To correlate serum vitamin D, parathormone and creatinine levels with functional capacity on subjects with chronic kidney failure on haemodyalisis treatment. Methods: 15 patients in stage 5 of chronic kidney disease in haemodialysis for more than 3 months, 3 times a week, were assessed through Health Assessment Questionnaire, Six minute walk test (6MWT), Sit-to-stand test, handgrip power measurement and body mass index (BMI). Serum vitamin D, parathormone and creatinine levels were obtained in the same day of the functional tests (before first session of haemodialysis of the week). Data was analyzed with SPSS® Statistics software. We used descriptive analysis and Spearman test to correlate vitamin D, parathormone (PTH) and creatinine levels to functional capacity tests. Results: Six men and nine women with 44,3±17,1 years and BMI 25,0±7,0. Statistical significance correlation was found between BMI and PTH (p value 0,006), 6MWT and PTH (p value 0,034). No other relations were found between functional capacity tests and serum concentrations of vitamin D, creatinine and PTH. Conclusions: High levels of PTH serum concentration seem to have more influence on functional and physical capacity than other isolated substrates and therefore, it is an important factor to consider on clinical practice in order to predict functionality loss in patient with kidney failure.