CKD REHABILITATION

MO064 RENEXC - A TRIAL ON EXERCISE PRESCRIPTION

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Introduction and Aims: In healthy individuals exercise training has numerous beneficial effects on basic physiological processes and has been described as "the new polypill". There are a number of studies establishing positive effects of exercise in patients with chronic kidney disease (CKD), however, whether the effects can be maintained over time and which is the most beneficial type of exercise training has as yet not been established. The primary aim of RENEXC is to investigate which exercise training programme is most effective in increasing or at least maintaining physical function in patients with CKD stages 4 to 5: endurance training in combination with strength exercises or endurance training in combination with balance exercises. Secondary aims are to study the long-term effects of exercise, and establish whether there are differences between the two programmes, especially on rate of decline in GFR, blood pressure control, cardiac autonomic neuropathy, body composition and inflammatory activity.

Methods: RENEXC is an interventional, prospective, controlled, randomized trial with an observation period of 12 months. All adult patients with an estimated GFR less than 30 ml/min/1.73m², irrespective of co morbidity, but with no neurological or orthopaedic impediment and not expected to require dialysis or transplantation within the year are eligible. Patients are recruited from the outpatient clinic of a single centre. The index group is prescribed endurance training in combination with strength training. The comparison group is prescribed endurance training in combination with balance. Each patient is prescribed an individualised exercise-training programme from a bank of exercises for strength or balance. The intensity of the exercises is kept constant using the Borg scale for rate of perceived exertion (RPE) within 13–15 of max 20 (i.e. "somewhat strenuous" to "strenuous"). The exercise training is performed according to the patient’s wishes at home or at a nearby gym. The duration and frequency is about 30 minutes per day, 5 days a week. The physiotherapist has telephone contact with each patient once a week during the first 3 months, thereafter every other week, in order to motivate, monitor progress and keep the RPE constant by increasing the load. The patient keeps a training diary. We calculate to find differences at the level of 60% of one standard deviation at a 5% level of significance and 80% strength if we accrue complete data on 50 patients in each group. Data will be analysed using primary intention to treat group comparison at the end of the study and secondary mixed model analysis with repeated measurements (baseline, 4, 8, 12 months). Mixed model analyses with e.g. level of training or compliance to training as covariates.

Results: By the end of December, 2015 a total of 216 patients had been screened and 150 patients had been included thereby terminating the inclusion period. We expect to start to analyze the 4 months’ data by May 2016.

Conclusions: RENEXC is a fairly large and comprehensive randomized controlled clinical trial in ordinary patients with CKD 4 to 5. The patients studied are not specially selected, but comprise patients common to current nephrological practice i.e. elderly people with a number of comorbidities. We hope RENEXC will contribute important knowledge on the effects and preferred mode of exercise training in non-selected patients with CKD 4 and 5 in the short and long term.