

Results.– The inter-rater reproducibility is very good (ICC 3, $1 = 0,894$ ($P < 0.0001$)), as well as intra-examiner reproducibility (ICC 1, $1 = 0,964$ ($P < 0.0001$)). However, the Acti'MET results are not correlated with SAP ($r = 0.254$, $P = 0.25$) nor with the 6MWT ($r = 0,157$, $P = 0.5$). SAP is correlated with 6MWD ($r = 0,623$, $P = 0.004$).

Discussion.– Acti'MET calculator is a tool easy to use, reproducible and suitable for estimating PA amount over a short period, but not over a longer period such as SAP. To confirm these results, we will compare Acti'MET with the IPAQ questionnaire [2], which explores the same period. It will also be necessary to follow patients to assess the sensitivity to change of the calculator. A second part of the study will explore the educational aspect of the tool and its impact on the practice of regular physical activity.

References

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Eccentric training in chronic heart failure: Feasibility and functional effects. Results of a comparative study



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Keywords: Chronic heart failure; Eccentric exercise; Rate of perceived exertion; Six-minute walk test

Objectives.– The positives effects of exercise training in chronic heart failure (CHF) have been demonstrated for concentric exercises (CON). However, eccentric training (ECC) could represent a valuable alternative to CON, thanks to its larger impact on muscle uncton, despite lower requirements for the cardiorespiratory system [1] not assessed in CHF patients. This is mainly due to the absence of consensus on personalization strategy, exposing to muscle deleterious effects. Our objective was to evaluate the feasibility and functional improvement related to ECC compared to CON in CHF.

Method.– Thirty patients were randomized either to ECC ($n = 15$) or CON ($n = 15$) training (20 sessions). ECC training was personalized on the level of perceived exertion (RPE, 9–11 on Borg scale [2]), while CON was based on the power corresponding to the first ventilatory threshold. Tolerance was assessed by visual analog scale (VAS) at the end of the sessions and heart rate (HR) during training. Functional capacity was evaluated with 6-minute walk (6MWT) [3], with VO2 measurement during the last 30 seconds.

Results.– Two patients were excluded due to adverse events in each group. ECC sessions were well tolerated and patients remain within the training intensity target (RPE 9–11 in the ECC group and 12–14 in the CON group). VAS remained close to 0 for both groups with HR increasing only in the CON group during training. The 6MWT distance improved in both groups (ECC: 53 m; CON: 33 m) and VO2 remained unchanged in the ECC group, but increased in the CON group.

Discussion.– The ECC training tailored with RPE is an effective and safe alternative in CHF reconditioning. Functional improvement was similar to that obtained during training CON with less stress on the cardiovascular system.

References

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The 6 minute walk test and before bariatric surgery: Which interest?



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Keywords: Obesity; Bariatric surgery; 6 minute walk test

Introduction.– Obesity is responsible of a decrease in the ability to walk. The 6 minute walk test (6MWT) is an easy test for the evaluation of the functional ability of patients with cardiac, respiratory diseases and it is highly reproducible in obese individuals [1].

Objective.– To evaluate the correlations between the markers of obesity and different parameters measured before and after a 6MWT.

Population.– One hundred and thirty-three patients (mean age 40.2 years) seen in a multidisciplinary evaluation before bariatric surgery. The mean Body Mass Index (BMI) was 48.5 kg/m², the mean waist circumference (WC) was 132 cm.

Methods.– All the patients have realised a 6MWT. Have been measured: the total distance, the percentage to the theoretical distance (%DT), the walk-work (WW), the SaO2, the frequency rate (FR), the blood pressure before and after the test, the relative cardiac cost (RCC), and the painful articular score.

Results.– The distance was significantly and negatively correlated with the BMI ($r = -0.5$; $P < 0.0001$), the WC ($r = -0.36$; $P < 0.0006$), the articular score ($r = -0.25$; $P < 0.01$) and the kinésiophobia ($P < 0.04$). The speed, the SaO2 before and after the test were correlated negatively with the BMI. The RCC was correlated significantly with the distance, the % DT and the WW. The WW was different between the sex ($P < 0.005$) but the distance and the % DT were not. A high diastolic pressure after the test was the only parameter associated to the Borg scale before and after the test ($P < 0.01$).

Conclusions.– The distance of the 6MWT is negatively correlated to the BMI. It implies that all the process that diminish the BMI have a potential impact on this parameter. Our study has found an association between the results of the 6MWT and the number of painful articular localisations but not with only gonarthrosis and kinesiophobia, factors that must be evaluated also in the post-surgical outcome. Finally, a high perception of effort (Borg's scale) was only associated with the cardiac consequences of the test, in favor of a central origin.

Reference

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Impact of insulin resistance on muscle strength in obese women



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Keywords: Muscle strength; Obesity; Insulin sensibility; Isokinetic

Introduction.– Obesity is a public health problem that can induce alone or because of its comorbidities disabilities. The main metabolic complication of obesity is type 2 diabetes, characterized by insulin resistance. Studies show that this population has a poor muscle strength compared to a non-diabetic population and this deficit is associated with a higher insulin resistance index (HOMA) [2]. Peripheral muscle strength (flexion-extension of quadriceps) in pre-menopausal women is lower in obese women compared to lean women when correcting for fat-free mass [1]. The association between insulin resistance and muscle strength in this population should be studied, which has been suggested by theoretical estimate. In this study, we examined whether quadriceps muscle strength is reduced in relation to insulin resistance (HOMA) in well-functioning ambulatory non-diabetic obese women by a cross-sectional analysis.