J Rehabil Med 2008; Suppl 47: 1–303

ABSTRACTS

16TH EUROPEAN CONGRESS OF PHYSICAL AND REHABILITATION MEDICINE

JUNE 3–6, 2008, BRUGGE, BELGIUM

 ISSN 1650-1977
doi: 10.2340/16501977-0220

CONTENTS

exercise therapy as secondary treatment is unknown. *Aim*: This pilot cohort study investigates whether supervised exercise therapy has clinical benefits in patients with recurrent complaints of intermittent claudication after a previous successful peripheral vascular intervention. *Patients and Methods*: Consecutive patients were included returning to the vascular surgery outpatient clinic with recurrent complaints of intermittent claudication after a successful vascular intervention at least one year before and with a restenosis of at least 50% in the previous treated arterial segment. Patients received a standard program of community based supervised exercise therapy according to the national physiotherapy society guideline. Main exclusion criterion was the inability to walk the baseline treadmill test for at least 10 m. Main outcome measurements: initial claudication distance (ICD) and absolute claudication distance (ACD), measured by a progressive treadmill test at baseline and at one, three, and six months of follow-up. *Results*: Twenty-three consecutive patients were included. A total of 60.9% of patients completed the supervised exercise therapy program. The mean percentage of increase of ICD was 411% (p=0.002) after a follow-up of 6 months. The increase in ACD at 6 months was 317% (p=0.002). In none of the patients who completed the program, a re-intervention occurred. *Conclusion*: Sixty percent of patients with recurrent complaints of intermittent claudication after a previous successful vascular intervention, have clinically significant benefits of a supervised exercise therapy program. These benefits include facilitating their quality of daily life, as well as evasion of a second vascular procedure with associated morbidity and mortality. This study forms the basis for further research on expanding the indications for supervised exercise therapy.

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RELIABILITY OF TREADMILL TESTING IN PERIPHERAL ARTERIAL DISEASE – A META-REGRESSION ANALYSIS

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Background: Treadmill testing is the primary assessment tool for evaluating walking ability in patients with peripheral arterial disease. Different treadmill protocols are being used, both several continuous (C-) as well as graded (G-) protocols. Outcome measures reported are the initial claudication distance (ICD) and the absolute claudication distance (ACD). The use of different protocols might hamper the ability to compare results of different studies. Ideally, future studies should use a treadmill protocol that has the highest reliability. *Patients and Methods*: We conducted a meta-analysis to identify the most reliable treadmill protocol. Reliability was assessed by the intraclass correlation coefficient (icc), which may be between 0 (not reliable) and 1 (highest reliability). We searched Medline (until February 2008) and hand searched the reference list for relevant articles. There were no restrictions on language. Randomised controlled trials assessing reliability of treadmill testing were identified. Inclusion criteria were the use of a C- or G-protocol, repetition of the protocol within 3 weeks and a reported or calculated icc. We developed a meta-regression method for the icc, which was applied to identify dependency of the C- and G-protocol and velocity and grade of the treadmill on the ICD and ACD. *Results*: We identified 8 studies in which 658 patients were included. Meta-regression analysis showed reliability of the ICD of the C- and G-protocol (as assessed by the icc) of 0.85 and 0.83 respectively, without dependency of the reliability on velocity or grade. For the ACD reliability was significantly better for the G-protocol (0.94) than for the C-protocol; reliability of the C-protocol was dependent on grade of the treadmill (0%, 10% and 12%) with an mean icc of 0.76, 0.89, and 0.9, respectively. *Conclusions*: A graded treadmill assessment protocol has the highest reliability using the absolute claudication distance as outcome measurement.

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MANUAL DRAINAGE WITH OR WITHOUT DEEP OSCILLATION® IN LOWER EXTREMITY OEDEMA

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Purpose: Post thrombotic syndrome and lymphatic disease are a major source of oedema. Once developed, it becomes a chronic and substantial problem, with no ideal method of reduction. Manual drainage (MD) is frequently used but its efficacy, alone, is limited. Add the deep oscillation® of the Hivamat®200 an interesting effect? The purpose of this study was to evaluate whether MD and Hivamat® applied separately or simultaneously increase the reduction of oedema and to assess the relative merits of each treatment. *Method*: From Sept 1st to Nov 30th 2007, 10 consecutive patients (3 males, 7 females; mean age 40 years, range 83 to 55 years) with unilateral old oedema (6 phleboedemas – PO – and 4 lymphoedemas – LO) of the lower limb were included in this study. MD and Hivamat® were used twice: once separately, once simultaneously. The 16 min session of the 3 procedures were spaced in time by 15 min rest. The order of execution offered 6 possibilities and was at random permuted after each case. Using a Hg plethysmograph (SeriMed PL2) gauge fitted at 10 cm below the knee, relative volumetric variation was assessed continuously during all the study (108 min). *Results*: Whatever the technique, all limbs experienced a progressive calf reduction. Volumetric calf decrease reaches 0.0902 %∂V/min manually, 0.0711 %∂V/min by mean of Hivamat® and 0.1568 %∂V/min by mean of simultaneously methods. These data show that the combined method promote greater decongestion than the MD alone, MD decongestion whose is superior to the Hivamat® alone. Our study failed to detect major differences between PO and LO, possibly related to the small number of subjects. Further studies in a larger number of patients are needed to clarify the involved mechanism and differences between methods. *Conclusion*: This small study suggests that the addition of Hivamat® to the MD could improve treatment outcome in patients with lower limbs oedema. Subjects did not feel any discomfort. No adverse reactions were recorded.

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VALIDATION OF THE DUTCH VERSION OF THE WALKING IMPAIRMENT QUESTIONNAIRE

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Introduction: The Walking Impairment Questionnaire (WIQ) is a frequently used method to evaluate patients with peripheral arterial disease (PAD). The WIQ was validated in the English language in 1990 and evaluates the degree of walking impairment in patients with intermittent claudication (IC) on a scale from 0 to 1. The WIQ is a short and easy questionnaire containing three domains; walking distance, speed and the ability to climb stairs. *Objective*: The aim of this study is to validate the Dutch version of the Walking Impairment Questionnaire (WIQ) for patients with symptomatic peripheral arterial disease (PAD). *Patients and Methods*: Translation of the WIQ was performed according to the formal forward-backward translation method. Cultural adaptation took place for the first domain, walking distance, in which 'American feet' and 'living blocks' were translated into meters. Hundred and twenty patients filled out the Dutch version of the WIQ, as well as two generic quality of life questionnaires, RAND-36 and EuroQol. To measure the functional (FCD) and absolute claudication distance (ACD) a treadmill test was performed. Applicability, expressed as concurrent validity, construct validity and internal consistency, was determined by comparing three domains of the WIQ with the quality of life