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When is Supervised Exercise Therapy Considered Useful in Peripheral Arterial Occlusive Disease? A Nationwide Survey among Vascular Surgeons

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WHAT THIS PAPER ADDS

- This study describes to what extent and on which criteria (Dutch) vascular surgeons decide to refer patients with peripheral arterial occlusive disease for supervised exercise therapy. Arguments not to refer for supervised exercise therapy seem to be outdated; therefore, this study may influence clinical practice. This study showed that supervised exercise therapy, including lifestyle coaching, should have more emphasis in the current management of intermittent claudication and possibly critical limb ischaemia.

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ABSTRACT

Objectives: Although international guidelines state that supervised exercise therapy (SET) should be offered to all patients with intermittent claudication (IC), SET appears to be underutilised in clinical practice. The aim of this study was to document current opinions of Dutch vascular surgeons on SET as treatment option for peripheral arterial occlusive disease (PAOD).
Materials and methods: Vascular surgeons and fellows in vascular surgery were asked to complete a 24-question survey either at the 2011 Annual Meeting of the Dutch Society for Vascular Surgery or online.
Results: Ninety-one participants, including 83 vascular surgeons (51% of all Dutch vascular surgeons), completed the survey. The respondents would refer 75.4% of newly diagnosed patients with IC for SET. SET was considered less useful in patients with IC and major (cardiopulmonary) co-morbidity or a significant iliac artery stenosis. In critical limb ischaemia, the combination of SET and angioplasty was considered useful in 71.9%. Respondents regarded patient satisfaction (63.3%) and improvement in pain-free or maximal walking ability (26.6%) as clinically most relevant goals of SET. Most (84.4%) agreed that SET should also include lifestyle management.
Conclusion: Although the vast majority of Dutch vascular surgeons consider SET as an important treatment option for PAOD, SET should receive more emphasis in clinical practice since arguments not to refer for SET are outdated. Furthermore, vascular surgeons agree that lifestyle management should be integrated in SET.

Introduction

In the management of intermittent claudication (IC), supervised exercise therapy (SET) leads to superior results (walking distances and quality of life) compared to a single walking advice.[1,2] When compared to angioplasty, patients with IC benefited equally from either angioplasty or hospital-based SET after a 12-month follow-

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up.[3,4] SET is safe and does not cause morbidity or mortality. For this reason, initial management of IC should consist of cardiovascular risk management and SET, as clearly stated in contemporary international guidelines.[5,6]

Community-based SET seems as efficacious as hospital-based SET, is cost-effective and should therefore be available for all patients with IC.[7,8] Nonetheless, in clinical practice, SET seems underutilised because of limited availability of physical or exercise therapists with specific knowledge on peripheral arterial occlusive disease (PAOD) and/or an SET treatment protocol. For this reason, Nicolaï et al. extensively trained all participating community-based physical therapists before they were allowed to participate in the multicentre randomised controlled ExitPAD (EXercIse Therapy in patients with Peripheral Arterial Disease) trial.[2] Another explanation for the underutilisation of SET could be the differing views on the indications for SET, such as concomitant significant cardiopulmonary comorbidity, patient's age, aortic or iliac artery obstruction as cause of IC or SET in combination with revascularisation for critical limb ischaemia (CLI). Furthermore, in severe or invalidating cases of IC vascular surgeons often perform a vascular intervention. However, a solid definition of 'severely disabling' or 'invalidating' IC is lacking.

The aim of this study is to document current opinions of vascular surgeons and fellows in vascular surgery on SET as treatment option for PAOD. We specifically wanted to find out to what extent and on which criteria Dutch vascular surgeons decide to offer or deny SET to patients with PAOD.

Materials and Methods

In spring 2011, Dutch vascular surgeons and fellows in vascular surgery were asked to complete a 25-question survey regarding SET as treatment option for PAOD. Participants could complete the survey either on the Annual Meeting of the Dutch Society for Vascular Surgery or on a secure online website. Most questions (21/25) were defined as statements that participants could agree or disagree with. One question was a multiple answer question, and three were open-ended questions (regarding the number of SET referrals per hospital, percentage of all patients with IC referred and criteria for successful conservative therapy).

Data extraction

Data extraction was performed by two independent investigators (GL and HvD). All surveys were analysed for missing answers and the number of responses per question were noted. If answers were unclear, the same investigators determined if the answer could be classified to a specific category. If this was not possible or in case of disagreement between the two investigators the answer was excluded from analysis. For the open-ended question 'when is conservative therapy considered successful', answers were classified by each of the two investigators. In case of disagreement, concurrence was sought by means of discussion. For the remaining open-ended questions, the numbers and percentages were extracted. When a range of numbers or percentages was given, the mean was calculated and used as definitive answer.

Statistical analysis

Data were analysed for both descriptive and analytical statistics. Because of a skewed distribution of continuous variables (referral data), evaluated by a one-sample Kolmogorov–Smirnov test, we performed a Mann–Whitney *U* test to determine statistical difference between two groups. Medians and interquartile ranges (IQRs) were calculated to describe the spread of data. A *p*-value <0.05 was considered to indicate statistical significance. All analyses were performed using IBM SPSS Statistics Version 19 (SPSS Inc., Chicago, IL, USA).

Results

Participants

In total, 91 participants, including 83 vascular surgeons, completed the survey. This comprises 51% of all Dutch vascular surgeons and seems therefore representative as nationwide survey. All respondents are further classified by gender, age group, professional career and hospital setting (Table 1).

Referral information

The number of new patients with IC, treated annually, was estimated to be 476 per hospital (median 400, IQR 260–640). No significant ($p = 0.626$) difference was found between academic and non-academic hospitals. Overall, 88 respondents estimated to refer on average 75.4% (median 80%, IQR 66.3–95.0) of their patients with IC for SET.

SET indications

Table 2 lists the attitude towards indications for SET. Most respondents had a positive attitude towards SET in general. However, continuation of SET after 3 months of treatment without functional improvement was only preferred by 60.0% of the respondents.

Most respondents did not consider a maximum walking distance of <100 m or age older than 80 years a contraindication for SET. However, in patients with a significant iliac artery stenosis (70.8%), patients with a coinciding chronic pulmonary condition (e.g., chronic obstructive pulmonary disease (COPD)) (65.9%) or chronic heart failure (69.8%), SET was less frequently thought to be useful.

As additional treatment before or after angioplasty for CLI, SET was thought to be useful by 71.9% of the respondents, while 64.8% would recommend SET as an adjunct to bypass surgery.

Table 1
Baseline characteristics.

	Number of Responses (%)
Total respondents	91 (100)
Gender	
Men	78 (85.7)
Women	13 (14.3)
Age	
30–40	23 (25.3)
40–50	40 (44.0)
50–60	20 (20.9)
60+	9 (9.9)
Professional career	
Fellow in vascular surgery	8 (8.8)
Vascular surgeon	83 (91.2)
Professor in vascular surgery	3 (3.3)
Hospital setting	
Academic hospital	15 (16.5)
Non-academic hospital	76 (83.5)