

Intermittent claudication

Studies on clinical evaluation strategies and invasive treatment efficacy

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av

Joakim Nordanstig
Leg. läkare

Fakultetsopponent:
Erik Wahlberg, adjungerad professor i kärlkirurgi vid Hälsouniversitetet,
Linköpings Universitet

Avhandlingen baseras på följande delarbeten:

I. Nordanstig J, Gelin J, Hensäter M, Taft C, Österberg K, Jivegård L. Walking Performance and Health Related Quality of Life after Surgical or Endovascular Invasive versus Non-invasive Treatment for Intermittent Claudication – a Prospective Randomised Trial. *Eur J Vasc Endovasc Surg.* 2011 Aug; 42(2): 220-7.

II. Nordanstig J, Karlsson J, Pettersson M, Wann-Hansson C. Psychometric properties of the disease-specific health-related quality of life instrument VasuQoL in a Swedish setting. *Health and Quality of Life Outcomes* 2012, 10:45 doi: 10.1186/1477-7525-10-45.

III. Nordanstig J, Wann-Hansson C, Karlsson J, Lundström M, Pettersson M, Morgan M. Vascular Quality of Life Questionnaire-6 facilitates health-related quality of life assessment in peripheral arterial disease. *J Vasc Surg.* 2014; 59: 700-7.

IV. Nordanstig J, Broeren M, Hensäter M, Perlander A, Österberg K, Jivegård L. Six-minutes walk test closely correlates to “real-life” outdoor walking capacity and quality of life in patients with intermittent claudication. *J Vasc Surg, in press.*

V. Nordanstig J, Taft C, Hensäter M, Perlander A, Österberg K, Jivegård L. Improved quality of life and claudication distance with a primary invasive, using TASC II principles, versus a primary non-invasive treatment strategy in claudicants – one-year results of the IRONIC trial. *Submitted.*



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Joakim Nordanstig

Department of Molecular and Clinical Medicine

Institute of Medicine

The Sahlgrenska Academy

ABSTRACT

Peripheral arterial disease is a common health problem that globally affects over 200 million individuals, and intermittent claudication (IC) is the most common symptomatic presentation. The leg symptoms in IC are provoked by walking exercise and can be alleviated by medical intervention, exercise training and invasive vascular interventions (revascularization). The quality of evidence for invasive treatment is low and the efficacy, in terms of patient-oriented endpoints (e.g. health-related quality of life, HRQoL, and walking capacity), remains to be established. Appropriate validated instruments for the evaluation of HRQoL in IC are scarce, and accurate clinical evaluation of walking capacity remains challenging. The main aim of this thesis was to investigate the efficacy of a primary invasive versus a primary non-invasive treatment strategy in IC patients receiving best medical treatment and a structured non-supervised exercise program. Secondary aims were to validate and develop HRQoL instruments in IC, and to study the ability of different walk tests to mirror free-living walking capacity and HRQoL.

The efficacy of revascularization was investigated in two randomized controlled trials (study I and V). A disease-specific HRQoL instrument (VascuQoL) was validated within a Swedish context in a prospective cohort study (study II), and the feasibility of a short version was explored (study III). The correlations of three clinically used walking capacity estimates with GPS-assessed “real-life” outdoors walking capacity and HRQoL were investigated in another cohort study.

We found that a primary invasive treatment strategy improved HRQoL (study I) and HRQoL and claudication distance (study V) during follow-up. Validity of the Swedish version of the VascuQoL was established (study II), and a promising short version (VascuQoL-6) could be developed (study III). The *six-minutes walk test* was shown to correlate closely to “real-life” outdoor walking capacity and HRQoL.

In conclusion, we established that a primary strategy of revascularization, when added to best medical treatment and structured non-supervised exercise training, improves quality of life and important aspects of walking capacity in patients with intermittent claudication. The Swedish version of the VascuQoL is valid in the assessment of HRQoL in IC and the VascuQoL-6 holds promise for practical use in routine clinical care. The *six-minutes walk test* could be recommended in the clinical evaluation strategy of IC patients.

Keywords: peripheral arterial disease, intermittent claudication, endovascular procedures, quality of life, exercise, revascularization, health-related quality of life, disease-specific instruments, walking capacity, walk test

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