



Exercise transcutaneous oximetry significantly modifies the diagnostic hypotheses and impacts scheduled investigations or treatments of patients with exertional limb pain

Submitted by Pierre Abraham on Fri, 11/16/2018 - 09:42

Titre	Exercise transcutaneous oximetry significantly modifies the diagnostic hypotheses and impacts scheduled investigations or treatments of patients with exertional limb pain
Type de publication	Article de revue
Auteur	Henni, Samir [1], Mahé, Guillaume [2], Lamotte, Christophe [3], Laurent, Remi [4], Bura Riviere, Alessandra [5], Aubourg, Marion [6], Sarlon, Gabrielle [7], Laneelle, Damien [8], Long, Anne [9], Signolet, Isabelle [10], Picquet, Jean [11], Feuillo, Mathieu [12], Abraham, Pierre [13]
Editeur	Elsevier
Type	Article scientifique dans une revue à comité de lecture
Année	2018
Langue	Anglais
Date	Juin 2018
Pagination	28-34
Volume	52
Titre de la revue	European Journal of Internal Medicine
ISSN	09536205
Mots-clés	Claudication [14], Diagnosis [15], Pain [16], Peripheral artery disease [17], Walking impairment [18]

Introduction

In lower extremity peripheral artery disease (PAD), transcutaneous oximetry at exercise (Ex-TcpO₂) has been largely validated in research practice, but evidence of routine practice in various vascular laboratories is missing. We hypothesized that Ex-TcPO₂ would change the diagnosis hypotheses, investigations and treatments for patients referred for exertional limb pain.

Material & methods

A multicenter prospective trial was conducted in nine different referral centers. Investigators performed Ex-TcpO₂ and recorded investigations and treatments already scheduled for the patient. We encoded referral physician's diagnostic hypothesis. Before Ex-TcpO₂, vascular physicians were asked to give their diagnosis hypotheses. A minimal decrease from rest of oxygen pressure (DROP) < minus 15 mm Hg defined the presence of exercise-induced ischemia on the area of interest. After Ex-TcPO₂, we recorded post-test diagnostic hypothesis and investigations and treatments to be cancelled or performed. We compared the diagnosis hypotheses, scheduled investigations and treatments, before and after the Ex-TcpO₂.

Results

We included 603 patients (485 males: 80.4%), aged 64.7 ± 9.8 years. The post-test diagnosis hypothesis differed in 266 patients (44.1%; p < 0.0001) and in 96 patients (15.9%) from the pre-test hypothesis of referring and vascular physician, respectively. This led to the recommendation to cancel 27 scheduled investigations or treatments of a total cost of ~130,000 euros.

Discussion

Ex-TcPO₂ in patients with exertional limb pain is applicable in various vascular institutions, and significantly modifies the diagnostic hypotheses and impacts scheduled investigations or treatments of patients with exertional limb pain.

Résumé en anglais

URL de la notice

<http://okina.univ-angers.fr/publications/ua18017> [19]

DOI

10.1016/j.ejim.2018.01.008 [20]

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[https://www.ejinme.com/article/S0953-6205\(18\)30008-6/fulltext](https://www.ejinme.com/article/S0953-6205(18)30008-6/fulltext)

Titre abrégé

European Journal of Internal Medicine

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[20] <http://dx.doi.org/10.1016/j.ejim.2018.01.008>

[21] <https://www.ejinme.com/article/S0953-6205>

Publié sur *Okina* (<http://okina.univ-angers.fr>)