Exercise induced anterolateral lower leg pathologies

VALORISATION

Social and economic relevance

Even though exact numbers on exertional lower leg pain, with CECS and CPN pathologies in particular, are unknown, CECS prevalence is estimated at 27-33% in patients with exertional lower leg pain, and a large study in active duty military service members in the United States showed an overall incidence of 1:2000 persons per year.[3, 6] The real incidence in the overall population is probably higher since one can assume that a significant portion of people simply adapt their activity level in order to reduce symptoms and never seek medical attention. Altogether, it may seem that a large part of the general population is suffering from exertional lower leg pathology.

Many people depend on their mobility to make a living. In The Netherlands alone we have 40.000 military personnel, and over 9 million other men and women have active professions like sports instructors, farmers, gardeners, cleaners and catering staff (Infographic personeelsaantallen Defensie op 1 juli 2019, Central bureau of statistics (central bureau voor statistiek, CBS) opendata, second quarter 2020). Pain free mobility is not only important for daily work but also for sports activities. Sports is important for both mental and physical health. It can relieve stress and feelings of depression and anxiety, and sports membership was even found to be positively associated with happiness.[1] It has also been estimated that approximately 12% of all mortality in the United States is related to the lack of physical activity, and physical activity is inversely associated with the risk of more than ten types of cancer.[4, 5]

This thesis reports that CECS patients and patients with CPN pathologies not only experience complaints on exertion during sports activities, but also with normal daily activities. Moreover, patients even report symptoms at rest and at night. These often invalidating symptoms can lead to disability and job loss, reduction of physical activity and thus a drop in quality of life. This thesis aims to contribute to earlier recognition and treatment of these syndromes, in order to prevent a prolonged negative impact on people's life and to decrease the financial burden on society.

Scientific relevance

Despite the growing number of publications on CECS in the last two decades from less than 10 a year to 176 in 2019 alone, there are still many aspects of CECS up for discussion. For instance, there is no consensus about the diagnostic role of intracompartmental pressure

measurements, the best treatment option, and even the exact pathofysiology is still not completely clarified.[2] This is not only the case for CECS but for exertional lower leg pain (ELP) syndromes in general. In the Netherlands, no national evidence-based guidelines are available on ELP syndromes. The availability of such a guideline would aid many physicians and patients by speeding up the diagnostic and therapeutic process. With this thesis we aimed to contribute to a broader scientific basis for the management of lower leg pain syndromes, in particular lat-CECS and common peroneal nerve pathologies. The NIAPS (Netwerk InspanningsAfhankelijke PijnSyndromen), a 2017 conceived Dutch multidisciplinary network for exercise related pain syndromes, endorses the importance of a general evidence-based guideline on ELP and is currently developing one for all Dutch healthcare workers treating patients with exertional lower leg symptoms.

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