Chest tcpO2 changes during constant-load treadmill walking tests in patients with claudication

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Chest tcpO2 changes during constant-load treadmill walking tests in patients with claudication

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Ouedraogo, N. [1], Feuilloy, Matthieu [2], Mahé, Guillaume [3], Lefthériotis, Georges [4], Saumet, J. L [5], Abraham, Pierre [6]

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Résumé en anglais
Changes in chest transcutaneous-pO(2) at rest (DeltatcpO(2)) mimic absolute changes in arterial-pO(2) during moderate exercise, although the absolute starting values may dramatically differ. We retrospectively studied 485 patients (group 1), prospectively studied 292 new patients (group 2) and estimated the intra-test and the test-retest reproducibility of DeltatcpO(2) during constant-load treadmill tests: 3.2 km h(-1), 10% grade, using the cross correlation technique. Patients were classified into groups according to their best fit to nine pre-defined mathematic models. Respectively, 71% and 76% of patients of groups 1 and 2 fitted with a model showing a DeltatcpO(2) increase during and a decrease following exercise. Another 18% and 12% of the patients of groups 1 and 2 respectively fitted with a model that showed an abrupt decrease at exercise onset, a slow increase during walking and an overshoot in the recovery period, referred here as a walking-induced transcutaneous hack (WITH) profile. The mean r(max) value for the cross-correlation analysis was 0.919 +/- 0.091 and 0.800 +/- 0.129 for intra-test and test-retest reproducibility. Most profiles show the expected DeltatcpO(2) exercise-induced increase. Future studies are needed to confirm and explain the WITH profiles that we found, and screen for potential-associated diseases.

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