

Title (en)

A WEARABLE DEVICE FOR EARLY DIAGNOSIS OF CARDIOPATHY BASED ON BIOIMPEDANCE

Title (de)

TRAGBARE VORRICHTUNG ZUR FRÜHDIAGNOSE VON KARDIOPATHIE AUF BASIS VON BIOIMPEDANZ

Title (fr)

DISPOSITIF PORTABLE POUR LE DIAGNOSTIC PRÉCOCE D'UNE CARDIOPATHIE ET/OU DE MALADIES CARDIOVASCULAIRES QUI PEUVENT ÊTRE DÉTERMINÉES PAR DES VARIABLES HÉMODYNAMIQUES

Publication

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Application

EP 11813343 A 20111011

Priority

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- IB 2011002386 W 20111011

Abstract (en)

[origin: WO2012049552A2] A early diagnosis device (100) of cardiopathies in a patient (50) such as a cardiac decompensation and/or cardiovascular diseases comprises a wearable support (1) and a diagnostic unit (5) mounted to the wearable support (1). The diagnostic unit (5) comprises a means for delivering (10) an electric current stimulus (Ii), at a predetermined frequency (fi) to the patient's body (50) and a means for measuring (20) a thoracic electrical bioimpedance (Zi), which is adapted to provide a bioelectric impedance signal (Zi) on the basis of the electric stimulus (Ii) at the predetermined frequency (fi). The device (100) further comprises an adjustment means (30) for adjusting the frequency (fi) of the electric stimulus (Ii) in way suitable for transmitting a plurality of electric stimuli (I1, I2,... In) at respective different frequencies (f1, f2, f3... fn) and such that the means for measuring (20) detects a corresponding complex bioimpedance signal (Z1, Z2, Z3, Zn). In addition, the device comprises a memory (35) that is configured to store the complex bioimpedance signals at a first time (ti), at a second time (t2) and at an nth time (tn) and a means for extracting the real part (R1, R2, R3... Rn) of the complex signals for instants (t1, t2, tn), to obtain a respective time chart (C1, C2, Cn) of the real part for each frequency. Furthermore, it comprises a means for analysing (40) the time chart (C1, C2, Cn) and a means to provide an alarm (46) of cardiac decompensation if a decrease value DR/Dt is higher than a predetermined value DRo/Dt.

IPC 8 full level

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CPC (source: EP)

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