DIGITAL VIDEOCAPILAROSCOPE

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Description:

Videocapilaroscopy allows a fast and non-invasive monitoring of any disease that affects microcirculation and represents a useful method in studying blood microcirculation because it offers the possibility of examining patients small caliber blood vessels *in vivo*. Our "Digital videocapilaroscope" is an experimental device, a hardware and software solution used for an early and non-invasive diagnosis in emergency situations. The device collects both dynamic and morphological data by analyzing the microscopic vessel distribution in the oral mucosa in order to diagnose and treat (following software processing) the early systemic microvascular changes that precede the onset of septic shock and, consequently, multiple system organ failure. The definition of normal and pathological aspects in patients also depends on the device's performance parameters (HD images, software processing) and is dictated by the differences observed at capillary level (diameter, length, density), structural disorders or the presence of dynamic (flow) anomalies and microscopic hemorrhaging.

Innovation (Novelty):

1 - Development of a map of the oral (sublingual) microcirculation in patients with sepsis / septic shock in different stages of the disease (international novelty)

2 - Implementation of an early diagnosis protocol for septic shock based on videocapilaroscopic examination (international novelty)

3 – Investigation and assesment of oral microcirculation and its practical medical utility (diagnosis and monitoring) in ICUs (Intensive Care Unit) is a novelty for Romania

4-The device can be successfully used in other medical specialties (rheumatology, dermatology, vascular surgery, phlebology, aesthetic surgery, dental medicine, implantology)

Advantages:

1-The information obtained along with the prompt therapeutic measures to improve splanchnic microcirculation early on in the disease process could represent a new method of treating patients with sepsis/septic shock

2-Early diagnosis and optimal management from the first proof of the disease will increase the survival rate and will decrease the length of hospitalization in patients with sepsis states

3-The possibility to detect early-phase microvascular impairment using videocapilaroscopy offers new diagnostic and research opportunities

4-Being a non-invasive diagnostic method, it does not raise medical ethics issues

DIPLÔME

Inventions Geneva

SALON INTERNATIONAL DES INVENTIONS

GENÈVE

Après examen, le Jury International a décidé

de remettre à: COCHIOR Daniel, CUSTURA Craciun Dan, GORECKI Gabriel-Petre, STOICA Radu, MOLDOVAN Horatiu, DOROBANTU Lucian Florin

pour l'invention: Digital videocapilaroscope.

MÉDAILLE D'OR
GOLD MEDAL
GOLDMEDAILLE

Genève, le 12 avril 2019

Le Président du Jury: David Toy

Le Président du Salon: Jean-Luc Vincent