PREDICTIVE MODELS AND ARTIFICIAL INTELLIGENCE TOOLS FOR THE EARLY DIAGNOSIS OF SEPSIS AND CLINICAL EVOLUTION FOR SEPSIS AND SEPTIC SHOCK PATIENTS

A research group from CIBER, INCLIVA and Universidad de Valencia have developed artificial intelligence models for the early detection of sepsis

The Need

Sepsis is the main cause of death in Intensive Care Units at hospitals. The available diagnostic test have several disadvantages, since they generate many false negative results and require long periods of time. Indeed, most available biomarkers are not enough sensitive or specific. To date, there are no early diagnostic test for sepsis and shock septic patients with an efficient prognostic capacity.
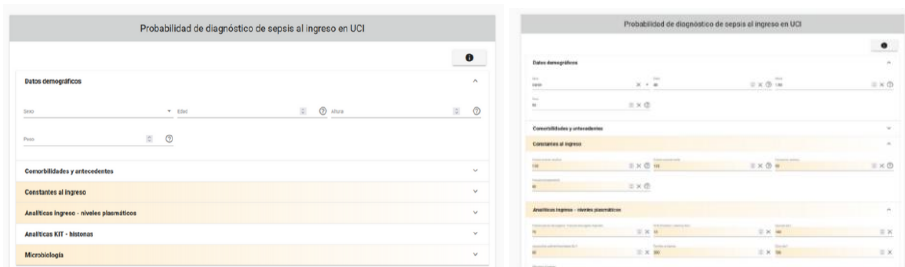
The Solution

Two algorithms have been developed for the early diagnosis and for the prediction of the evolution of the patient, respectively, that will improve the management of critical patients in Intensive Care Units with suspicion of sepsis.

Innovative Aspects

- ✓ It's the first prediction tool for sepsis and shock septic with an early prognostic capacity.
- ✓ The algorithms developed include H3 and H3B variants introduced by *machine learning*.
- ✓ It provides quick diagnosis for sepsis and shock septic patients, predicts the clinical evolution of patients and even the need of therapies of vital support.

Stage of Development:
Demonstration phase: installation of software application AVI-Sepsis in a real environment in a Intensive Care Unit (awaiting approval from Ethics Committee of Hospital Clínico Universitario de Valencia).

Data required for the development for the implementation of the algorithms

Graph of the prediction of risk of sepsis

Intellectual Property:

- Registered software deposited at Universidad de Valencia in January 2022.
- Trademark: SepAsT (Spanish Patent and Trademark Office) in January 2022.

Aims

Looking for a partner interested in a license and/or a collaboration agreement to develop and exploit this asset.

Contact details

Consorcio Centro de Investigación Biomédica en Red (CIBER)
otc@ciberisciii.es
https://www.ciberisciii.es/en