POINT-OF-CARE BLOOD TEST FOR EARLY SEPSIS DIAGNOSIS

Ref-Nr: TA-B79000

HINTERGRUND

Sepsis is a life-threatening multiorgan failure caused by an excessive, dysregulated immune reaction following an infection. Comprising over 20 million annual cases and estimated 8 million cases of death worldwide, sepsis is a major contributor to the global disease burden. Early diagnosis is crucial for an immediate therapy onset and hence patients' survival. However, a precise diagnosis is still hampered by the lack of specific symptoms. The challenge is thus to develop a tool for the early diagnosis of sepsis or a developing sepsis; ideally a simple, quick point-of-care test for emergency rooms and doctor's practices.

LÖSUNG

The innovation describes a novel diagnostic tool for sepsis based on altered platelet function. Patients' blood samples are stimulated with specific agonists, the readout can be done by e.g. ELISA, aggregometry, or FACS. The test can be used for all cases of suspected sepsis regardless of the focus of infection (respiratory, urogenital, abdominal), or source of infection (gram-positive, gram-negative, SARS-CoV-2, fungal) and can provide additional clinical information about disease severity and patient prognosis. The method allows medical personnel to make coherent decisions at a much earlier time point than usual sepsis diagnostic methods, e.g. about the need for an immediate start of antibiotic therapy, the transfer to an ICU or close monitoring of high-risk patients.

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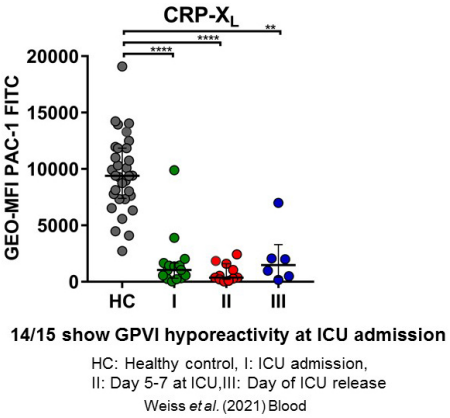
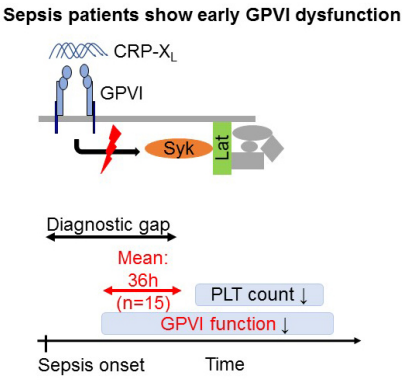
ENTWICKLUNGSSTAND

Machbarkeit

CATEGORIES

//Diagnostik //Medizin und Pharma





VORTEILE

The innovation can be used for early identification of a developing or manifested sepsis. Potential applications are:

- Blood test kits for hospitals, medical practices, emergency departments
- Point-of-care test devices

PUBLIKATIONEN & VERWEISE

L. J. Weiss, G. Manukjan, A. Pflug, N. Winter, M. Weigel, N. Nagler, M. Kredel, T. T. Lam, B. Nieswandt, D. Weismann and H. Schulze (2021). "Acquired platelet GPVI receptor dysfunction in critically ill patients with sepsis." Blood.

L. J. Weiss, G. Manukjan, M. Weigel, N. Winter, M. Kredel, B. Nieswandt, D. Weismann and H. Schulze (2021). "Acquired Platelet GPVI Signaling Deficiency Occurs Early in Patients with Gram-Positive or Gram-negative Sepsis." Res Pract Thromb Haemost.