New data on innovative biomarkers used to guide the clinical management of septic patients

- Endothelial and kidney dysfunction are common complications in septic patients leading to organ failure and unfavorable outcomes.
- The organ-specific biomarkers bio-ADM and penKid are used in clinical routine for monitoring the endothelium and respectively kidney function in intensive care units.
- Prof. Dr. Gernot Marx of Uniklinik RWTH Aachen is presenting at ISICEM new evidence on how the use of biomarkers can support clinicians in the management of sepsis.

Aachen, Germany and Hennigsdorf/Berlin, Germany, August 31, 2021 – German University Hospital Uniklinik RWTH Aachen ("Uniklinik RWTH Aachen") and diagnostics company SphingoTec GmbH ("SphingoTec") announce today that novel data on the acute care biomarkers bioactive adrenomedullin (bio-ADM) and proenkephalin (penKid) will be presented at the 40th International Symposium on Intensive Care and Emergency Medicine (ISICEM) taking place in Brussels, Belgium on August 31 - September 3, 2021. Sepsis is a medical emergency in need of quick therapeutic decisions, although it often progresses undetected in its early stages and remains difficult to manage in the late stages. The organ specific biomarkers first introduced in the clinical routine at Uniklinik RWTH Aachen, Germany offer a new perspective on the disease pathology and facilitate a more timely and efficient treatment.

Prof. Dr. Gernot Marx, the Director of the Clinic for Operative Intensive Care and Intermediate Care at Uniklinik RWTH Aachen, one of the largest ICU wards in Europe, explains "Septic patients are at high risk of developing life-threatening complications. The use of biomarkers that can facilitate a faster and better diagnosis and monitoring of sepsis progression allows clinicians to provide the best available treatment. I am excited to share with the critical care community the latest insights on improving septic patients' management with the help of innovative biomarkers."

PenKid is a biomarker for the real-time assessment of kidney function. It is a blood-based solution for detecting true glomerular filtration rate (true GFR) in clinical routine testing and is independent from inflammation and comorbidities (1). PenKid has been proven to not only predict septic acute kidney injury earlier than today's standard of care, but also to detect the presence and severity of the disease, identify patients at high risk of unfavorable outcomes and indicate the renal recovery (1,2).

Bio-ADM is a biomarker for the real-time assessment of endothelial function (3). The endothelium is the interior wall of the blood vessels that acts as a barrier separating the blood from its surroundings. Bio-ADM enables the assessment of endothelial function up to 48 hours before the symptoms become visible. High bio-ADM levels indicate severe hypotension, edema formation, need for immediate therapeutic interventions and for organ support. Being a dynamic biomarker, low or decreasing bio-ADM blood levels indicate improved outcomes (3,4).

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40th ISICEM Presentation:

Session: Sepsis Biomarkers
Title: "Endothelial and kidney function biomarkers to guide management"
Speaker: Dr. Gernot Marx, Uniklinik RWTH Aachen, Germany
Date & Time: September 1. at 5:15 p.m. CET

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References

(1) Khorashadi M, et al. *Proenkephalin: A New Biomarker for Glomerular Filtration Rate and Acute Kidney Injury*. Nephron. 2020;144(12):655-61 DOI: 10.1159/000509352
(2) Hollinger A, et al. *Proenkephalin A 119-159 (Penkid) Is an Early Biomarker of Septic Acute Kidney Injury: The Kidney in Sepsis and Septic Shock (Kid-SSS) Study*. Kidney Int Rep. 2018;3(6):1424-33. DOI: 10.1016/j.ekir.2018.08.006
(3) Geven C, et al. *Vascular Effects of Adrenomedullin and the Anti-Adrenomedullin Antibody Adrecizumab in Sepsis*. Shock. 2018 Aug;50(2):132-140. doi: 10.1097/SHK.0000000000001103.
(4) van Lier D, et al. *Promotion of vascular integrity in sepsis through modulation of bioactive adrenomedullin and dipeptidyl peptidase 3*. J Intern Med. 2021 Jun;289(6):792-806. doi: 10.1111/joim.13220.

Uniklinik RWTH Aachen

The Uniklinik RWTH Aachen is a supramaximal care provider that combines patient-oriented medicine and nursing, teaching and research at an international level. With 36 specialist clinics, 28 institutes and five interdisciplinary units, the University Hospital covers the entire medical spectrum. Excellently qualified teams of doctors, nurses and scientists are competently committed to the health of the patients. The bundling of patient care, research and teaching in one central building offers the best conditions for intensive interdisciplinary exchange and close clinical and scientific networking. Around 8.000 employees provide patient-oriented medicine and care according to recognized quality standards. With 1.400 beds, the University Hospital treats around 50.000 inpatient and 200.000 outpatient cases per year.

About SphingoTec

SphingoTec GmbH ("SphingoTec"; Hennigsdorf near Berlin, Germany) develops and markets innovative in vitro diagnostic (IVD) tests for novel and proprietary biomarkers for the diagnosis, prediction and monitoring of acute medical conditions. SphingoTec's proprietary biomarker portfolio includes bioactive Adrenomedullin (bio-ADM), a unique biomarker for real-time assessment of endothelial function in conditions like sepsis or congestive heart failure, Proenkephalin (penKid), a unique biomarker for real-time assessment of kidney function, and Dipeptidyl Peptidase 3 (DPP3), a unique biomarker for cardiac depression. IVD tests for

SphingoTec's proprietary biomarkers are made available as sphingotest® microtiter plate tests as well as point-of-care tests on the Nexus IB10 immunoassay platform. SphingoTec's subsidiary Nexus Dx Inc. (San Diego, CA, USA) produces the tests alongside a broad menu of established and commonly used tests for acute and critical care.

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