

NOÉMI VIDA



National Academy of Scientist Education, 6th year

University of Szeged,
Albert Szent-Györgyi Medical School, 6th year

YEAR OF BIRTH

2000

FORMER SZENT-GYÖRGYI PUPIL

yes

RESEARCH UNIT

University of Szeged

SZENT-GYÖRGYI MENTOR

Mihály Boros

JUNIOR MENTOR

Gabriella Varga

SPECIALIZATION

diseases of systemic
circulation

SECONDARY SCHOOL

Radnóti Miklós
Experimental Grammar
School, Szeged

NAME OF TEACHER

Viktória Gál

LANGUAGES

English/advanced

IMPORTANCE, AIMS AND POSSIBLE OUTCOME OF RESEARCH

Extra corporal circulation (ECC) is commonly used during several type of heart surgeries and intensive care. During extracorporeal membrane oxygenization (ECMO) or cardiopulmonary bypass (CPB) the lungs are excluded from the circulation and the blood is introduced to a considerable amount of heparin. Furthermore the blood contact with the foreign surface of the CPB circuit causes an immediate inflammatory response similar to the septic systemic inflammatory response (SIRS) in which humoral and cellular factors play an essential role. The contact activation leads to intrinsic activation of the coagulation cascade and further activation of pro-inflammatory cascades, triggering a wide variety of cellular systems. If these cascade activations are dysregulated due to prolonged ECC time and further metabolic changes, significant tissue and organ damage can occur in sensitive organs such as the kidneys and intestines. *In vivo* animal models are used to explore the mechanisms behind these reactions, therefore in the Institute for Surgical Research, University of Szeged, a clinically relevant large animal model is used to monitor inflammatory responses during ECC. Our aim is to investigate the exact mechanism behind the ECC-induced inflammatory reactions along with the development of novel therapeutic strategies to reduce post-ECC inflammatory damage.

AMBITIONS AND CAREER GOALS

As a medical student clinical knowledge and skills are exceptionally important, however I find keeping up with scientific research and integrating them into practice is just as crucial. By working in this laboratory, I would like to deepen my knowledge in the pathophysiology of post-surgical inflammatory response and obtain surgical skills, which I will benefit from later as a practitioner.

HONORS AND PRIZES

- 2020 Scientific Students' Associations Conference (TDK) Szeged, 1st prize in Physiology, Patophysiology and Morphology
- 2019 XXXIV. National Student Scientific Conference - Surgical Researcher Prize
- 2019 Hungarian Research Student Association Conference, Conference of Life Sciences in the Carpathian Region - Grand Prize
- 2019 Dr. Árokszállás Zoltán National Biology Competition, 17th place
- 2017 Dr. Árokszállás Zoltán National Biology Competition, 13-14th place

PUBLICATIONS

Bárony, A., **Vida, N.**, Gajda, Á., Rutai, A., Mohácsi, Á., Szabó, A., Boros, M., Varga, G., Érces, D. (2020) Methane Exhalation Can Monitor the Microcirculatory Changes of the Intestinal Mucosa in a Large Animal Model of Hemorrhage and Fluid Resuscitation. **Front Med (Lausanne)** 7: 567260.

Varga, P., **Vida, N.**, Hartmann, P., Szabó, A., Mohácsi, Á., Szabó, G., Boros, M., Tuboly, E. (2019) Methanogenic potential of consumable organosulfur administration: *in vitro* and *in vivo* evidences **PLOS One** 15: e0236578.