

ANDRÁS GULYÁS



National Academy of Scientist Education, 3rd year

University of Szeged
Szent-Györgyi Albert Medical School, 3rd year

YEAR OF BIRTH

2003

FORMER SZENT-GYÖRGYI PUPIL

no

RESEARCH UNIT

University of Szeged

SZENT-GYÖRGYI MENTOR

Márta Julianna Sárközy

JUNIOR MENTOR

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SPECIALIZATION

biochemistry,
pathophysiology

SECONDARY SCHOOL

Radnóti Miklós
Experimental High School

NAME OF TEACHER

Viktória Gál,
Sándor Bán,
Tamás Mező,
István Vincze

LANGUAGES

English/advanced

IMPORTANCE, AIMS AND POSSIBLE OUTCOME OF RESEARCH

The prevalence of chronic kidney disease (CKD) varies between 7 and 12% in the general population worldwide. In the pre-dialysis stages of CKD, about 60% of patients are women. Cardiovascular complications, including chronic heart failure, are the leading causes of death in CKD. The CKD-associated chronic functional, structural, and electrophysiological changes of the heart are also called uremic cardiomyopathy (i.e., type 4 cardio-renal syndrome). It is characterized by diastolic dysfunction and left ventricular hypertrophy (LVH) in the heart failure with preserved ejection fraction phase (HFpEF, EF>50%) and later by more severe interstitial fibrosis and systolic dysfunction in the heart failure with reduced ejection fraction phase (HFrEF, EF<50%). However, there is no breakthrough in the therapy of uremic cardiomyopathy. Its treatment remains largely symptomatic by well-known pharmaceuticals used in other forms of heart failure (e.g., diuretics, RAAS inhibitors, etc.). Therefore, it is necessary to establish clinically relevant uremic cardiomyopathy models and to investigate the underlying molecular mechanisms for the development of preventive, diagnostic, and therapeutic strategies.

Our aim is to i) detect molecular changes (myocardial miR / mRNA targets and proteins) to identify potential new diagnostic markers and therapeutic targets and ii) test new agents potentially suitable for the prevention of the development of uremic cardiomyopathy. We hope that the findings of the present project can be used in patient care in the future.

AMBITIONS AND CAREER GOALS

My goal is to get an insight into scientific research, to deepen my knowledge in my field, to learn the necessary technics, to broaden my scope and to use the acquired experience and knowledge to develop a complex way of thinking, which I'll be able to use in medical practice. The Academy's program gives an excellent opportunity to reach these goals and I hope this helps me to become active and successful as a medical doctor and as a researcher as well in the future.

HONORS AND PRIZES

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PUBLICATIONS

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