

## Preface

Dear readers of Physiological Research,

It is a great honor for us to welcome you to reading this supplement of the Physiological Research journal. We would like to present some of the recent scientific works from the 5th department of Internal medicine at Comenius University Faculty of Medicine and University Hospital, Bratislava. It is the largest Internal Medicine department in Bratislava awarded with the Prize of the Ministry of Education of the Slovak Republic for the best scientific and technical team of the year 2020.

The main scientific topics at our department are endocrinology, osteology, rheumatology, gastroenterology, hepatology and cardiology. In addition, Clinical Research Unit particularly deals with regenerative medicine, microRNAs and individualization of pharmacotherapy. The Clinic has a long-term intensive cooperation with scientific institutes from Slovakia, but especially from abroad.

In the supplement that you have in your hands, we have decided to present works that come almost exclusively from our workplace.

Work from Clinical Research Unit at our department points to the experimental character and innovation of their work. Šalingová *et al.* pointed to the altered expression of selected isoforms in activated human cardiac fibroblasts. Further work from the team of Prof. Kyselovič deals with *in vitro* intestinal barrier and its role in magnesium salt absorption.

Following articles are devoted to the long-term interest of the department, the issue of metabolic bone disease. Review Kužma *et al.* summarizes the effects of parathyroid hormone overproduction on bone structure.

Other works of our group are reporting their own, unique results. The pathophysiological significance of fibroblast growth factor 23 and Klotho in the early stages of chronic kidney disease

demonstrates the importance of evaluating bone quality using the Trabecular bone score. We also used this sensitive parameter evaluating bone quality in other diseases with a high risk of osteoporotic fractures. It is ankylosing spondylitis and 10 years effect of growth hormone replacement in patients suffering from adult growth hormone deficiency.

Two of the works represent a great symbiosis of clinical and experimental work. We evaluated biomarkers of physical function mobility in patients hospitalized in internal medicine and muscle tissue specific miRNA in patients with sarcopenia.

An intersection between gastroenterology and endocrinology is the evaluation of the ovarian reserve by anti-Mullerian hormone in women with Crohn's disease. Another work deals with evaluation of changes in physiological parameters within 3D echocardiography, which makes it possible to distinguish cardiovascular risk in end-stage renal disease patients.

With selected works created during the last period, we dare to demonstrate the advantage of a joint clinical and experimental workplace.

It enables the confrontation of the physiological and experimental view with the pathophysiological and clinical approach. We are convinced that it is this scientific cohabitation that enables a proper confrontation with scientific workplaces around the world.

We wish you a pleasant reading.

Editors

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