

## Editorial

Dear Readers,

It is my honor to be invited by the Editorial Board of Biomedical Papers to act as guest editor for this special issue on laboratory medicine. Laboratory medicine is a cluster of disciplines including clinical biochemistry, hematology, immunology, microbiology, pharmacology, genetics, pathology, toxicology and others. Recent years have seen an explosion of scientific information emerging from the field of laboratory medicine but the results are often conflicting and contradictory. This issue provides a cross section of the kinds of issues that we as readers are regularly confronted with.

The first eight papers cover laboratory diagnostics in oncology. The authors from the universities of Prague, Hradec Králové, Olomouc and New Delhi describe the relationship between the concentrations of cytokines/adhesion molecules and various malignant diseases using biochip technology. Thanks to advances in technology based on modified PCR, we now have a range of options for diagnostic, predictive and monitoring purposes, e.g. for measuring the expression of microRNAs and DNA hypermethylation. Also described are the diagnostic contributions of laboratory techniques in the determination of local inflammatory markers in the treatment of malignant pleural effusions. The relationship between renal cell carcinoma and nuclear retinoid/rexinoid receptors is a subject of article from Slovak colleagues.

Other articles focus on cardiac and metabolic issues. The authors from the Czech branch of the Division of Cardiovascular Diseases, Mayo Clinic (ICRC), describe the predictive role of NT-proBNP determination in dialysis patients. The contribution of the writers from Olomouc includes issues with the clinical determination of markers of collagen turnover and other markers in the

diagnosis of heart failure with normal left ventricular ejection fraction.

Researchers from China describe their studies of HIF-1 $\alpha$  polymorphisms and the clinical presentation of CAD. As laboratory diagnosis is closely linked with metabolic phenomena, included are contributions of Moravian scientists on the benefits of continuous glucose monitoring in the perioperative period and the importance of confirming measurements using laboratory analysis. Screening for thyreopathies in pregnancy is another topic.

Other papers cover metalloproteinase assay and their inhibitors in lip tissue.

The role of genetics and DNA analysis in diagnosis is explained by Czech and Venezuelan specialists who describe the importance of identifying candidate genes and polymorphisms in asthma and CNS vascular disease. A paper from Olomouc includes the importance of sperm DNA analysis (DNA fragmentation index, DNA stainability) in infertile men.

PCR techniques in the diagnosis of infection, in this case, leptospirosis is presented by colleagues from Hradec Králové.

The final publication focuses on breath analysis (<sup>13</sup>C methacethin breath test) in the diagnosis of liver cirrhosis severity. These elegant and non-invasive tests are some of the great benefits of advanced laboratory medicine in the diagnosis and prognosis of liver cirrhosis.

I hope that readers of this issue will find the contributions of interest and that it enriches their knowledge of the broad field of laboratory medicine.

*David Stejskal*

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