

3. Summary

This thesis deals with the issue of MGUS from the perspective of the regional biochemical laboratory. The dissertation thesis is divided into several chapters. The first part includes general knowledge about monoclonal gammopathies, their basic distribution and characteristics of individual types of monoclonal gammopathies. The next chapter is focused on monoclonal gammopathy of undetermined significance and their epidemiology, etiology and pathogenesis, disease prevalence, diagnostics and diagnostic criteria. The clinical course of MGUS, prognostic factors and monitoring of monoclonal gammopathy activity are also mentioned. The importance of determining free light chains for the stratification of MGUS risk is also presented separately. The next chapter deals with the basic methods of laboratory diagnostics of MGUS and their pitfalls. The chapter also contains a discussion of the SEKK control system and standardization. The next chapter is devoted to new directions in the diagnosis of monoclonal gammopathies, namely determination of light / heavy chain pairs (Hevylite), immunophenotyping examination, genome examination.

In the second part of the dissertation are recorded individual observations of individual cases of monoclonal gammopathies. It includes own laboratory monitoring of individual cases of MGUS and BGUS including pictorial documentation, tables and graphical records of clinical development in some patients. A separate chapter is devoted to transient paraproteinemia and MIG interference in the determination of bilirubin and glycosylated hemoglobin. Another part of the work is the case reports of late diagnosed multiple myeloma and the importance of long-term monitoring of patients with MGUS. An integral part of this work is a recommendation for laboratory diagnostics and monitoring of patients with MGUS and for stratification of risk of transition to multiple myeloma.