SUMMARY

Multiple myeloma is one of the main representatives of monoclonal gammapathy diseases. It is caused by malignant transformation of B-lymphocytes, its clonal proliferation and accumulation of terminal stages of plasmocyte maturation.

Clinical diagnosis is based on presence of this monoclonal immunoglobulin in serum or urine, myeloma cells infiltration into bone marrow and finding osteolytic lesions in bones. The electrophoresis and immunofixation of monoclonal immunoglobulins, free light chains assay, cytology of bone marrow aspirate are the most important laboratory tests helping in the statement of this immunoglbuline. The proof of the osteolytic damage is made using imaging technologies, such as RTG.

Treatment of multiple myeloma had significantly improved during last years. The main options of therapy include high-dose chemotherapy and autological transplantations, together with immune modulating drugs, such as thalidomide, lenalidomide and bortezomib.

Experimental part was focused on the comparison of sensitivity of paraprotein assessment by electrophoresis, immunofixation and free light chains assay. We can assume on the base of the results of the work that the free light chain assay is less sensitive method compared to k/l index.

In addition – the higher sensitivity of IFO in comparison with electrophoresis and the higher sensitivity of k/l in comparison with the serum levels free light chains was found in our set of patients.