Aim: Evaluation of monoclonal gammopathy of undetermined significance (MGUS) and asymptomatic multiple myeloma (smoldering, indolent myeloma) prevalence among the patients older than 50 years of age with bone pain and elevated erythrocyte sedimentation rate. Material and Method: Overall, 160 patients older than 50 years of age with elevated erythrocyte sedimentation rate (50 mm/h) were included to the study. In all patients, the following evaluations were performed: protein electrophoresis, measurement of serum immunoglobulin levels, serum immunofixation assays, free light chain ratio (FLC kappa and lambda). Monoclonal gammopathy were detected by immunofixation electrophoresis and serum FLC tests. Histopathologically, the diagnosis was also confirmed by bone marrow biopsy. Results: Immunofixation electrophoresis (IFE) and FLC tests were performed in the sera of 160 patients. A significant difference was found between cases in which monoclonal gammopathy was or wasn’t detected (p<0.05). Of the 160 patients underwent IFE test, monoclonal gammopathy was detected in 36 patients. Of the 160 patients underwent FLC test, monoclonal gammopathy was detected in 30, while normal or increased polyclonal immunoglobulin levels were found in 43 patients. The sensitivity, specificity and positive predictive value of IFE test were found as 90.0%, 73.3% and 61.1%, respectively. MGUS was diagnosed in 11 cases in which monoclonal gammopathy was detected by IFE; in 7 cases, monoclonal gammopathy was detected by FLC test. In addition, AMM was diagnosed in 3, active MM in 5 cases. Conclusion: In our study, it was found that plasma cell-related diseases were more prevalent in case of presence of risk factors such as advanced age, elevated ESR, and increased serum immunoglobulin. This study emphasized that the detection of MGUS, one of these diseases, is rather important since it is a precursor of MM. When IFE and FLC tests used in the detection of monoclonal gammopathies, it was seen that either test alone couldn’t detect all monoclonal gamopathies despite higher sensitivity of IFE test; and using in combination allowed to detect monoclonal gamopathies by 100%.