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Title: CLINICAL AND PROGNOSTIC FACTORS IN MULTIPLE MYELOMA IN THE GOMEL REGION

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Session Title: Myeloma and other monoclonal gammopathies - Clinical

Background:

Despite recent advances in treatment with new therapeutic agents, MM in most cases remains an incurable disease. The presence of patient-related factors, such as genetic abnormalities, age of the patient, identification of extramedullary lesions, do not always determine the prognosis of the disease.

Aims:

To study clinical and prognostic factors at MM associated with the course of disease in the patients of the Gomel region.

Methods:

The study group included 139 MM patients from the Gomel region of Belarus, observed in the SI "RRCRM&HE" from 2018-2022. All patients underwent clinical and laboratory studies, aspiration biopsy and biopsy of the iliac wing with bone marrow examination, including immunophenotypic (IFT) and IHC studies. Out of the radiological methods of diagnostics, low-dose CT of the whole body and diffusion-weighted MRI of the whole body were used.

Results:

The median year of examined patients was 64.0 years (58.0 and 70.0).

In terms of immunoglobulin secretion, patients with the secretion of immunoglobulin G (IgG) (54.7%) and light chains of immunoglobulins (19.4%) prevailed, M-gradient ≥15 g/l was detected in 57.3% of cases.

Disease progression during follow-up was verified in 56 (40.3%) patients.

Durie-Salmon disease stage did not affect progression-free survival (p=0.09).

It was found that disease progression in patients with a CD138+ level of more than 20% occurred 1.52 times more often than in patients from the group with CD138+ <20% p=0.042, OR 2.04 (95% CI [1.02-4 .06]).

A significant excess of the levels of IL2 (p=.001), IL6 (p=0.059), TNF (p=0.001) in the blood serum during the initial diagnosis was found in patients with disease progression that developed during the follow-up.

In our study, mutations were detected in 4 (7.4%) patients. At the same time, progression-free survival in these patients was significantly lower compared to patients without mutations (p = 0.03).

The presence of extramedullary lesions in patients in our study did not affect progression-free survival (p = 0.61). However, the detection of multiple skeletal lesions was associated with a worse prognosis for PFS (p = 0.048, Log-Rank Test)

Patients with kidney damage in our study had a worse prognosis than patients without impared renal function. Progression in this group was determined in 50% of cases, which is 1.59 times more often than in patients from the group without kidney damage (31.5%) of cases, p=0.026, OR 2.17 (95% CI [1.09 -4.34]).

A decrease in PFS at the time of diagnosis was more often detected in patients with hemoglobin less than 100 g/l (p = 0.05), which is consistent with published data.

Disease progression was detected in 54.2% of cases in patients with initially high levels of CRP, which is 1.64 times more often than in patients from the group in which no infectious complications were detected at the time of diagnosis - in 33% of cases, the significance level for the criterion Pirson p=0.016, OR 2.40 (95% CI [1.17-4.94]).

Summary/Conclusion:

We have determined that a significant excess of the levels of IL2, IL6, TNF at the time of diagnosis is associated with an increase in the number of cases of disease progression. The second important factor when disease progression occurs more frequently is the level of clonal CD138+ >20%. Also, kidney damage, anemic syndrome, infectious complications, multiple lesions of the bones of the skeleton, genetic changes at the time of diagnosis can be attributed to a decrease in progression-free survival.

Keywords: Survival, Progression, Multiple myeloma, Prognostic factor