

ONCOLOGY SOLID TUMORS

OP 27

Bone marrow involvement in non-small cell lung cancer

S. Chulkova^{1,*}, N. Tupitsyn²

¹ 1/FSBU “N. N. Blokhin National Medical Research Center of Oncology” of the Russian Ministry of Health, 2/Pirogov N. I. Russian National Research Medical University of the Russian Ministry of Health, Moscow, Russian Federation

² 1FSBU “N. N. Blokhin National Medical Research Center of Oncology” of the Russian Ministry of Health, Moscow, Russian Federation

Objective: Purpose of the study is to evaluate the possibility of detection DOCs in BM and to identify the frequency of BM involvement in patients with NSCLC, as well as their effect on the population of bone marrow lymphocytes.

Case report: There is evidence that disseminated tumor cells (DOCs) in the bone marrow (BM) are precursors of subsequent distant metastases. There is evidence indicating an important role for bone marrow lymphocyte subpopulations in hematogenous metastasis. The detection of DOCs in non-small cell lung cancer (NSCLC) will provide important information about the features of metastasis, as well as the possibilities of identifying new targets for the treatment of NSCLC.

Methodology: 62 bone BM of NSCLC patients were studied by morphological and immunological methods. DOCs analysis was performed using flow cytometry (FACS Canto II, USA, Kaluza Analysis v2.1 software), monoclonal antibodies to CD45, cytokeratins directly labeled with various fluorochromes were used. Lymphocyte populations CD3, CD4, CD8, CD19, CD20, CD16, CD27 were studied.

Results: DOCs (EPCAM+CD45-) in the BM were found in 43.5% of patients (threshold level: 1 cell per 10 million myelocytes). The presence of DOCs did not correlate with tumor size, lymph node status, stage of the tumor process. The highest detection rates of DOCs were observed at stages IA and IIA: 60.7% and 58.3% respectively. BM involvement in adenocarcinoma was observed in 45% cases, in squamous cell carcinoma - in 37% samples ($p=0.501$). It was found that DOCs are more often detected in more differentiated tumors ($p=0.023$). Significant correlations between the presence of DOCs in the BM and myelogram parameters have not been established. A decrease in the number of granulocyte germ cells was observed in 4% of BM involvement ($p=0.036$). A significant increase in the level of subpopulations of CD16 + CD4-NK-cells ($p=0.002$), CD27 + CD3 + T-cells ($p=0.015$) with bone marrow damage was revealed.

Conclusion: The possibility of detecting DOCs in the BM of NSCLC patients has been established. BM involvement was 43.5%. DOCs are detected even in the early stages of NSCLC. Relationship between BM involvement and the degree of tumor differentiation was found. More frequent BM involvement was observed in adenocarcinoma compared with squamous cell carcinoma of the lung. The relationship

between DOCs and bone marrow lymphocyte populations was revealed: subpopulations of CD16 + CD4-, CD27 + CD3+.

<https://doi.org/10.1016/j.htct.2020.09.060>

OP 28

The prognostic significance of neutrophil/lymphocyte ratio in patients with terminal cancer

M. Alemdar*, S. Sezgin Goksu, A. Tatli, H. Coskun

Akdeniz University, Antalya, Turkey

Objective: Predicting the life expectancy in patients with terminal cancer is important in terms of clinical assessment and treatment approaches. Although, various prognostic scoring systems have been established and still often used, those are based on subjective parameters. There is a recently increased tendency to anticipate prognosis by prognostic laboratory tests that consist of objective parameters and are easily applied. The role of inflammation in cancer development and progress is a well-known topic. Neutrophil/lymphocyte ratio (NLR) is a objective parameter that could show the level of systemic inflammation. Increasing NLR has been associated with worse prognosis in many type of cancer. In this study, we evaluated the prognostic role of NLR in terminal cancer patients.

Methodology: Patients of 432 who were enrolled as a terminal cancer in Department of Medical Oncology were included in this study. The information of those patients were obtained retrospectively from medical archive records. Hemogram and biochemistry results which were examined on the first day of patients' last hospitalisation were used. Statistical analyses were done by Independent Sample T or Mann Whitney U test. Two main subgroup were defined; patients who died in first 30 days from last hospitalization or patients who died after 30 days from last hospitalization.

Results: Descriptive data and statistical analysis results are shown in Table 1. The median age of patients was 62. 268 (b) of patients were male and 164 (8) were female. The most frequent cancer type were lung (1), colorectal (%9), and esophagus/stomach (%8), respectively. While the median NLR was 11.36 (min-max, 0.11–367.67), the median thrombocyte/lymphocyte ratio (PLR) was 305.39 (min-max, 3.23–4150). 381 (88%) of the patients were in the group that died within 30 days after the last hospitalization. The median NLR was significantly higher in patients who died within 30 days compared with patients who died after 30 days (11.84 vs. 7.5, $p<0.001$, respectively) as shown in Table 1. On the other hand, there were no differences between 2 group in terms of other parameters including hemoglobin, leukocyte count, lactate dehydrogenase (LDH), mean platelet volume (MPV), PLR, CRP/albumin ratio, monocyte count, and prognostic nutritional index (PNI) (Table 1).

Conclusion: There is a strong relationship between inflammation and cancer. NLR is a marker to show inflammation. In this study, we showed that increased NLR was associated with worse prognosis in patients with terminal cancer. There are few studies evaluating the prognostic role of NLR in terminal

