MM patients with osteolytic lesions at the time of diagnosis, compared to those without osteolyses.

Conclusion: We conclude that miR-221/222 cluster correlates with more favorable R-ISS stage, revealing a potential favorable prognostic value in MM patients. MiR-15a and miR-16 correlate with the presence of osteolytic disease in MM. The observed decreased expression of these two miRNAs in symptomatic MM patients with osteolytic lesions could constitute a possible biomarker for the occurrence of bone disease. Moreover, decreased expression of miR-16 and miR-155 in MM patients, compared to sMM patients may indicate a putative predictive biomarker able to distinguish symptomatic patients from sMM patients. This ongoing study will further reveal the possible prognostic significance of this 10 miRNAs signature studied, when response to therapy, progression-free and overall survival is available.

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OP 13

Peripheral blood immune profiling of multiple myeloma patients at diagnosis: correlations with circulating plasma cells

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Objective: Circulating Tumor Plasma Cells (CTPCs) detected in the peripheral blood (PB) of newly diagnosed Multiple Myeloma (MM) patients have been associated with adverse prognostic features and poor overall survival. The correlation of CTPCs with the immune profile in PB remains unknown. The aim of the present study was to evaluate the immune profile in the PB of patients with newly diagnosed MM and correlate the results with the presence of low or high number of CTPCs.

Methodology: We analyzed myeloid-derived suppressor cells (MDSCs) and major immune T cell subpopulations, including regulatory T cells (Tregs), in the PB of newly diagnosed MM patients. The percentages of MDCSs and Tregs were correlated with the concomitant presence of low (<0.003%) or high (>0.05%) CTPCs. PB samples of 26 newly diagnosed MM patients were analyzed with flow cytometry using the following panels: (a) the minimal residual disease EuroFlow-based next-generation flow cytometry (NGF) panel, for the detection and identification of PB CTPCs; (b) a panel comprising the surface markers CD15, HLA-DR, CD14, CD124, CD33, CD11b, and LinCD56-CD3-CD19, for the detection of polymorphonuclear MDSCs (PMN-MDSCs), monocytic MDSCs (M-MDSCs) and early-stage MDSCs (eMDSCs); and c) two panels comprising the surface and intra-cellular markers CD25, CD3, CD39, CTLA-4, CD4, CD8, CD45RO, CD45RA, HLA-DR, CD127, Ki67, and FoxP3, for the detection of CD4, CD8 T cells and Tregs. For the evaluation of (b) and (c), prior to staining, mononuclear cells (PBMCs) were isolated from PB using density-gradient centrifugation on Ficoll-paque.

Results: Using NGF, 12 MM patients had high and 14 low CTPCs in their PB. MDSCs averaged $5.42 \pm 5.9\%$ of PBMCs, whereas PMN-MDSCs were the most abundant subpopulation ($4.38 \pm 5.7\%$ of PBMCs) and displayed great heterogeneity between patients. Additionally, 22 distinct T subpopulations were phenotypically identified and analyzed, including CD4 and CD8 T cells, naive Tregs (CD45RA+), effector Tregs (CD45RO+), terminal effectors (HLADR+), CD39+ suppressor Tregs, CD8 Tregs and their proliferating (Ki67+) counterparts. Comparing the percentages of the immune populations among patients with high versus low CTPCs, M-MDSCs were significantly more abundant ($p < 0.05$) in patients with low CTPCs, whereas immune profiling of T cells revealed (although not reaching statistical significance) the presence of increased percentages of proliferating Tregs in those with low CTPCs and increased percentages of naïve CD4 T cells in patients with high CTPCs.

Conclusion: To our knowledge, this is the first study correlating the presence of high versus low CTPCs with the immune profile in PB of MM patients. Low CTPCs correlated with the presence of higher percentage of M-MDSCs. Since the latter has been associated with the CCR5-dependent recruitment of Tregs into the tumor site, our findings suggest that, in low CTPC MM patients, a more effective immune surveillance mechanism, mediated by the interaction of M-MDSCs – Tregs, likely controls CTPC expansion and may contribute to a more favorable prognosis. Analysis of more samples, which is ongoing, will validate our findings and provide more solid results.

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OTHER DISEASES

OP 14

COVID-19 infection in cancer patients: a systematic review and meta-analysis with emphasizing the risk and prognosis stratification

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Objective: Various cancer societies worldwide have released guidelines to care for cancer patients suffering from COVID-19. Given the findings from our meta-analysis, in the absence of prospective data, we recommend diligent preventive care measures, full supportive care for immunosuppressed patients to minimize the risk of infection, limiting patient's visits to the hospital when possible and using telecommunication technology. Future studies should focus on collecting all the baseline characteristics of cancer patients suffering from COVID-19, all cancer and chemotherapy or radiation-related variables as well as the detailed COVID-19 care protocol followed in these patients and the dynamic biochemical and inflammatory profile of these patients during the infection.

Case report: Our meta-analysis, suffers from several limitations. All the included studies are retrospective, the number of cancer patients is small, and many important data were not reported in these studies (cancer types, stages, and treatments).

Methodology: Several groups have published on outcomes of cancer patients infected with of the SARS-CoV-2 virus causing the COVID-19 infection. However, most of these reports are single-center studies with a limited number of patients. We performed a systematic review and meta-analysis to evaluate the impact of COVID-19 infection on cancer patients. We searched PubMed, Web of Science, and Scopus for studies that reported the risk of infection and complications of COVID-19 in cancer patients. The literature search retrieved 22 studies (1018 cancer patients).

Results: The analysis showed that the frequency of cancer among COVID-19 confirmed patients was 2.1% (95% CI: 1.3%, 3%) in the overall cohort. These patients had a mortality of 21.1% (95% CI: 14.7%, 27.6%), severe/critical disease rate of 45.4% (95% CI: 37.4%, 53.3%), ICU admission rate of 14.5% (95% CI: 8.5%, 20.4%), and mechanical ventilation rate of 11.7% (95% CI: 5.5%, 18%). The double-arm analysis showed that cancer patients had higher risk of mortality (OR = 3.23, 95% CI: 1.71, 6.13), severe/critical disease (OR = 3.91, 95% CI: 2.70, 5.67), ICU admission (OR = 3.10, 95% CI: 1.85, 5.17), and mechanical ventilation (OR = 4.86, 95% CI: 1.27, 18.65), compared to non-cancer patients. Further, cancer patients had significantly lower platelet levels and a significantly higher D-Dimer, C-reactive protein, and prothrombin time

Conclusion: cancer patients are at a higher risk of COVID-19 infection-related complications. Therefore, cancer patients need diligent preventive care measures and aggressive surveillance for earlier detection of COVID-19 infection.

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PLATELET DISEASES

OP 15

The factors that affect the results of the response to rituximab treatment in ITP patients

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Objective: ITP is an acquired thrombocytopenia caused by antibodies that develop against platelet antigens. The underlying mechanism is thought to be specific immunoglobulin G (IgG) autoantibodies produced by the patient\'s B cells, mostly formed against platelet membrane glycoproteins such as GPIIb/IIIa. Preventing serious bleeding is in the decision to start treatment. Patient with platelet count <30,000/microL or signs of severe bleeding (intracranial or gastrointestinal), platelet transfusion along with glucocorticoid and/or IVIG therapy should be started immediately. If there are still signs of bleeding or platelet count <20,000/microL following glucocorticoid-based treatments, three principal choices such as rituximab, splenectomy, TPO agonists can be used as a second-line therapy. The aim of our study is to determine the factors that affect the results of the response status to rituximab treatment in ITP patients.

Methodology: Twenty five patients with the diagnosis of ITP who were treated in Hematology Clinic at Ankara Numune Hospital, Ankara City Hospital and Şanlıurfa Mehmet Akif İnan Hospital Hematology Clinic. The dose of rituximab administered in patients is 375 mg/m^2 once a week for four consecutive weeks. Treatment response criteria are; those with a platelet >30,000 were defined as a response, and those with >100,000 as a complete response.

Results: Seventeen of the patients (68%) were female and 8 (32%) were male. Median age was 34 (18-71). All Patients who treated with Rituximab was received corticosteroid as a first line treatment. Twenty (80%) of the patients was responded to Methyl prednisolone (MP) treatment, 5 patients (20%) were resistant to MP treatment. Eleven patients (44%) had steroid dependent disease before Rituximab treatment. Thirteen (52%) of the patients were underwent splenectomy. Three patients (12%) received Eltrombopag treatment before Rituximab treatment. The response was observed in 20 of 25 patients who received Rituximab so overall response rate (ORR) is 80%. Complete Response (CR) was observed in 17 (68%) of the patients and partial response was in 3 (12%) of the patients. In patients with complete response, the median response time was on the 15th day (6–90 days). In patients with partial response, the median time was 12th day. After a median follow-up of 48 months (12–186), for 20 patients who were rensponsive to Rtiuximab, median duration of response was 15 months (2–68 months). In the follow-up period, clinical recurrence was detected in 12 (60%) of 20 patients, while permanent remission was achieved with Rituximab in 8 patients (40%). In patients with MP-dependent group, the Rituximab response rate is significantly higher than patients with non-dependent ($p = 0.027$). There was no difference in response to Rituximab treatment in splenectomized patients, those who received eltrombopag therapy before or whom have steroid resistant disease. In addition, the median time for Rituximab response in the MP dependent group is significantly higher than the MP resistant group (9.4 months vs. 17.4 months, $p = 0.006$).

Conclusion: Rituximab is a second line treatment for ITP patients especially whom are not suitable for splenecetomy. It should have more priority to TPO agonists regarding the success to obtain long-term remission.

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