After the radiotherapy was completed, the superior vena cava syndrome subsided. On January 2022 the patient underwent reinduction chemotherapy (FLAG with daunorubicin).

Conclusion

Myeloid sarcoma is a rare pathology with important clinical implications. An optimal management of myeloid sarcoma has not yet to be developed because of the rarity of this phenomenon and heterogeneous presentation. The treatment of choice depends on the status of the underlying disease and also on the myeloid sarcoma lesion site. The presence of myeloid sarcoma considered a poor prognostic factor for survival.

LITERATURE

1. *Graham, S. R.* Treatment of extramedullary myeloid sarcoma with radiotherapy / S. R. Graham // Cureus Journal. 2021. Vol. 13(6). Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8281801.

2. *Liu, H. W.* Superior vena cava syndrome: a rare presenting feature of acute myeloid leukemia / H. W. Liu, K. L. Wong, T. Y. Chan // PubMed. gov. Retrieved from https://pubmed.ncbi.nlm.nih.gov/3132804/.

3. *Yang, W. C.* Complete response of myeloid sarcoma with cardiac involvement to radiotherapy / W. C. Yang, Y. Ming, Yu-Hsuan Chen // Journal of Thoracic Disease. 2016. Vol. 8, № 6. Retrieved from https://jtd.amegroups.com/article/view/7650/html.

UDC 616.98:578.834.1

AGE AND GENDER SPECIFIC INTERPRETATION OF HEMATOLOGICAL PARAMETERS IN COVID-19

Rajendran Priyanka

Scientific supervisors: Assistant prof. *O. A. Yarmolenko*; PhD, Associate prof. *C. G. Malaeva*

Educational Establishment «Gomel State Medical University» Gomel, Republic of Belarus

Introduction

Coronavirus infection (COVID-19), is a multisystem pandemic that created a dreadful threat to the world resulting more than 6 million deaths all over the globe. Coronavirus infection is caused by the SARS CoV-2 virus developing with symptoms ranging from mild to severe respiratory illness and requiring adequate medical attention [1]. This disease can affect people of any age however, people more than 60 years with other out disease outcomes and future standar medical conditions have the ability of developing severe infection. In spite of the fact that it targets respiratory system, it also cause problems to other main organ systems such as cardiovascular, central nervous system, hepatobiliary, gastrointestinal and renal systems developing organ dysfunction due to combination of viral toxicity and immunological factors. Hematological system which plays a major role in this disease can pave ways for predicting the disease progression and severity [2]. We carried out data analysis with hematological parameters of coronavirus infected patients based on gender and age wise evaluation and the results have been discussed below. These markers are mainly of hematological inflammatory laboratory values [3]. This study is carried out for a better prospective of statistical studies to bring d diagnostic plans and treatments.

Aims

To determine the alterations in hematological parameters of COVID-19 patients according to their age and gender wise probabilities for forecasting the outcomes of the disease.

Materials and Methods of research

We carried out a prospective and retrospective study with patients infected with coronavirus. The hematological data were collected from the 7 Department of

Internal Diseases at the Gomel Clinical City Hospital No.3, Gomel, Belarus on June 2021. In this clinical study, 54 patients with Covid-19 infection were enrolled for evaluating the altering hematological parameters inorder to make possible outcomes for better treatment of this disease. Here, the analysis was carried out as means, medians and standard deviation and analysed statistically by Analysis of Variance Anova.

Results and Discussion

We had a study on 54 hospitalized Covid infected patients, including age of them 20–80 years old. Among them, there was 28 male patients and 26 female patients. So, the gender ratio is 1:1 indicating equal ratio of infection in both the sexes. Also, we divided the patients into subgroups according to their age like (20–40 y.o., 40–60 y.o., 60–80 y.o.) respectively. For Age and Gender specific interpretation of hematological parameters in 54 COVID-19 patients, we assessed the laboratory values of C-reactive protein (CRP), Ferritin, Lactate dehydrogenase (LDH), D-dimer and Erythrocyte Sedimentation Rate (ESR).

By means of Analysis of Variance ANOVA, we evaluated specific hematological laboratory values of COVID-19 patient's age and gender based alterations. By assessing hematological lab values based on different subgroups (20–40, 40–60, 60–80 years old) we can obtain mean values of CRP (32,9 vs 79,6 vs 72,4 mg/l, p = 0,39), Ferritin for men (621,8 vs 607,4 vs 826,1 µg/l, p = 0,69) and women (200,5 vs 381 vs 834,5 µg/l, p = 0,53), LDH (677,5 vs 707,2 vs 684,6 U/l, p = 0,95), D-dimer (400 vs 443 vs 1218,7 ng/ml, p = 0,33) and ESR for men (23 vs 29,3 vs 25,2 mm/hr, p = 0,86) and female (30,6 vs 28,7 vs 34,8 mm/hr, p = 0,43). With these values we can explain that CRP affected 40–60 yrs old with severe course. LDH affected 40–60 yrs old with severe course and Ferritin affects both men and women with group 60–80 yrs old on severe course. D-dimer mostly affects severe with 60–80 yrs old and ESR affecting with severe course in mostly male with 40–60 yrs old patients.

With a total of 54 investigated patients, 48 patients were present with high CRP levels. Ferritin levels was elevated in 41 patients, LDH was elevated in 44 patients, D-dimer was elevated in 19 patients and ESR elevated with 31 patients. Hereby, we can detect a significant increase in the levels of CRP, LDH and Ferritin indicating the severe course of the disease. These specific hematological parameters brings out the possibility for predicting disease progression in severely ill Covid patients. D-dimer and ESR has moderate elevation indicating that not every patients infected with coronavirus disease will have high levels of these parameters. Based on the results we obtained, our primary goal should be focus on CRP, LDH and Ferritin levels. By means of a research, it is said that, people who died from Covid infection had a ten-fold increase in the CRP levels. Highly elevated CRP levels determines the necessity for hospitalization and constant monitoring with advanced treatment methods of medical care.

Serum Lactate dehydrogenase (LDH), a glycolytic pathway enzyme related to inflammatory response and cell damage is also crucial to be monitored. Therefore, Covid patients seen with high levels of LDH will have higher possibilities of developing Acute Respiratory Distress Syndrome (ARDS). Also, a lot of statistical analysis suggests that raised levels of LDH is associated with poor outcome and mortality. Henceforth, elevated lactate dehydrogenase (LDH) indicates tissue hypoperfusion, which may affect the prognosis in COVID-19. With prolonged COVID, the regulation of ferritin levels can be disrupted and some patients can develop ferritin toxicity that may damage other organ systems. Coming to D-dimer, it helps to detect thrombosis in patients and is associated with poor prognosis in COVID-19 in case of high levels. In case of ESR, sustained high levels can progress to organ damage. But, based on our data analysis D-dimer and ESR had a moderate variation of elevated levels compared to other hematological parameters. Age and Gender based study of these lab values will help in comparison of disease progression in different aged people. Statistical da-

ta and analysis determines the severity and outcomes of COVID-19 for sustaining its growth for advancement in treatment and preventive medical care.

Conclusion

1. Men and women can be equally affected with COVID-19 disease.

2. We found in this group super highly increased levels of CRP, LDH and Ferritin. Other parameters we analysed like D-dimer and ESR was with moderately high and is in need of adequate medical care.

3. One the basis of analysis by subgroups of age, the study concludes with gender and age influence on disease progression and severity stating that CRP levels is highly severe in 40–60 y.o and moderately severe in 60–80 y.o, Ferritin levels in men is higher than female with both genders specifically affects severely in 60-80 y.o patients. LDH levels affects as severe course in 40–60 y.o and other groups remain mild and moderately high. ESR levels in men has highly affected than in female. ESR in men with severe course seen within 40–60 y.o and in female remains severe with 60–80 y.o patients. D-dimer levels indicates severe course in 60–80 y.o whereas other age groups has moderately high levels.

4. Age and gender wise explanation may help us determine the necessary to broad spectrum study of patients with comparison to their diagnostic values. This helps in determining the outcomes of the disease and to improve future treatment modalities.

REFERENCES

1. World Health Organization. Coronavirus disease 2019 (COVID-19) situation report-41. [cited August 3 2020]. Available from: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200301-sitrep-41-covid-19.pdf?sfvrsn=6768306d_2.

2. Dynamic profile and clinical implications of hematological parameters in hospitalized patients with coronavirus disease 2019 / X. Ding [и др.] // Clin Chem Lab Med. 2020. Vol. 58. P. 1365–1371.

3. Changes of hematological and immunological parameters in COVID-19 patients / X. Yuan [et al.] // Int J Hematol. 2020. Vol. 112. P. 553–559. PMC – PubMed.

UDC 616.36:616.379-008.64

NON-ALCOHOLIC FATTY LIVER DISEASE
IN PATIENTS WITH DIABETES MELLITUS

Tsitko E. V., Addipalli Maanasa

Scientific supervisor: Ph.D., Associate Professor *E. G. Malaeva*

**Educational Establishment
«Gomel State Medical University»
Gomel, Republic of Belarus**

Introduction

Non-Alcoholic Fatty Liver Disease (NAFLD) is the most prominent cause of liver disease worldwide, with global estimated prevalence of 25,24 %. It is associated with considerable clinical burden with the potential development of advanced fibrosis, liver cirrhosis, and hepatocellular carcinoma. NAFLD has long been regarded as a liver manifestation of metabolic syndrome. Type 2 Diabetes Mellitus (T2DM) is highly connected with NAFLD progression and is commonly acknowledged as an independent predictor of moderate-severe liver fibrosis, in addition to overall and liver-related mortality. In this report, up to 79,5 % of T2DM patients were found to have NAFLD and of more concern and 15 % reported with clinically significant fibrosis. There is an increasing awareness of the high index of suspicion for NAFLD and Non-Alcoholic Steatohepatitis (NASH) in patients with T2DM. The gold standard for diagnosis and staging of NAFLD is liver biopsy, which is not very well accepted by patients due to its invasive nature and consequently potential risks, and the accuracy is limited by sampling er-