ISSN: 2321-8819 (Online) 2348-7186 (Print) Impact Factor: 1.498 Vol. 7, Issue 6, June, 2019

Rheumatoid Arthritis Related Presentation of Different Types of Anemia and Their Evaluation.

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Abstract:

Objective: The basic aim of this research was to find the incidence of Rheumatoid arthritis related presentation of different types of anemia and their evaluation.

Study design: It is a cross sectional type of study.

Duration and Place of study: This study was carried out in a duration of 9 months from February 2018 to October 2018 in rheumatology department of Fatima Memorial Hospital Lahore.

Methods and Materials: A total of 100 patients were selected among which 50 were diagnosed with Rheumatoid arthritis and 50 had no problem and they were taken as control cases. 50 cases which were diagnosed with RA included both males and females. Informed approval was received from all the patients who were willing to take part in this study.

The patients who had chronic co-morbidities like liver diseases, renal failure, severe lung abnormality or any neoplasm were removed from the study.

Results: Among all the patients who had RA anemia was seen in 60% of the patients and 40% of the patients demonstrated no signs of anemia as shown by the Hb, PCB, RBC values which were significantly reduced in anemia linked with in comparison with the patients in whom no symptoms of anemia were seen RA. In RA related anemia levels of MCH were substantially decreased in comparison to non-anemic rheumatoid arthritis patients while normal values were seen for MCHC and MCV. Reduced levels of serum ferritin were seen in 7 patients who had anemia associated with RA while normal values of ferritin level in blood was seen in 23 patients. 23% diseased of RA had anemia due to iron insufficiency while chronic disease linked anemia was found in 77% of the patients.

Conclusion: RA is linked to two types of anemia.

1- Anemia of Iron Deficiency

2- Chronic disease linked anemia

According to the stats chronic disease associated anemia is seen more frequently in patients who suffer from RA.

Keywords: Iron insufficiency anemia, RA, chronic disease associated anemia.

Introduction: Chronic inflammation of the small joints of feet and hands that deforms the joints and erodes and is an autoimmune disorder is defined as rheumatoid arthritis. RA can occur at different ages but the incidence rate increases up to the age of 70 years. Higher incidence rate of RA is seen in women as compared to men. 3:1 is seen and around 1 to 2% of the population is affected by this disorder. Multiple systemic disorders are associated with RA but blood related anemias are more common than others and among all varieties of anemia chronic diseases linked anemia and anemia due to iron insufficiency are frequently seen. About 1/3rd to 2/3rd of diseased patients of RA have an associated chronic disease linked anemia. Decreased levels of erythrocytes and erythropoietin seen in chronic disease linked anemia results because of the abnormal release of iron from transferrin to form abnormal erythroblasts which are trapped in reticuloendothelial systems and this leads to failure in iron release needed to form erythroblasts. Gastric bleeding that occurs because of the side effects of NASIDs can also results to deficiency of iron. It is one of the most frequent disease in Pakistan.

Methods and Materials: A total of 100 patients were selected among which 50 were diagnosed with Rheumatoid arthritis and 50 had no problem and they were taken as control cases. 50 cases which were diagnosed with RA included both males and females. Informed approval was received from all the patients who were willing to take part in this study.

The patients who had chronic co-morbidities like liver diseases, renal failure, severe lung diseases or any malignancy were excluded from the study.

Sample Collection: Using a septic measures 5ml of blood was collected in which 2 ml was used to check the Hb level after pouring it in EDTA vial. And 3ml was poured in serum vial which was centrifuged to get serum ferritin level.

Reference Values:

1- Serum ferritin concentration Men 15–300 µg/L

2- Women 15–200 µg/L

3- Cutoff value of 15 µg/L was used to differentiate between iron deficiency anemia and anemia of chronic disease.

Results: Among all the patients who had RA anemia was seen in 60% of the patients and 40% of the patients demonstrated no signs of anemia as shown by the Hb, PCB, RBC values which were significantly reduced in anemia linked with in comparison with the patients in whom no symptoms of anemia were seen RA. In RA related anemia levels of MCH were substantially decreased in comparison to non-anemic rheumatoid arthritis patients while normal values were seen for MCHC and MCV. Reduced levels of serum ferritin were seen in 7 patients who had anemia associated with RA while normal values of ferritin level in blood was seen in 23 patients. 23% diseased of RA had anemia due to iron insufficiency while chronic disease linked anemia was found in 77% of the patients.

Discussions: According to the results of ferritin levels in blood in RA patients, chronic disease linked anemia was found in 77% of the patients whereas 23% patients suffered from anemia due to iron insufficiency. Close results have been seen in our study showing the incidence of anemia of 60% which is also in accordance with the previous studies done in this regard. A correlation has also been shown in this study between anemia and rheumatoid arthritis. The levels of RBC, Hb, PCV, and MCH are also low in rheumatoid arthritis patients. Two different types of anemia are seen in rheumatoid arthritis patients i.e. chronic disease associated anemia and iron anemia due to iron insufficiency and among these chronic disease linked anemia has higher prevalence.

Conclusion: RA is linked to two types of anemia.

1- Anemia of Iron Deficiency

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