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Frequency of occurrence of haematological abnormalities among rheumatoid arthritis patients

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Abstract
Background: Rheumatoid arthritis (RA) is a systemic inflammatory disorder associated with significant proportion of haematological abnormalities. The present study was undertaken for assessing the haematological abnormalities among rheumatoid arthritis patients.
Materials & methods: A total of 121 RA patients were enrolled. Morning blood samples were obtained from all the patients and complete haematological profile was assessed. All the results were analysed by SPSS software.
Results: Anaemia was found to be present in 42.94 percent of the patients. Thrombocytosis was found to be present in 18.99 percent of the patients while leucocytosis was found to be present in 8.26 percent of the patients.
Conclusion: Haematological abnormalities are commonly seen in RA patients.

Keywords: Haematological, rheumatoid arthritis

Introduction

Rheumatoid arthritis (RA) is a chronic inflammatory disease of unknown etiology and complex multifactorial pathogenesis affecting joints and other tissues. The natural history of RA is poorly defined, its clinical course is fluctuating and the prognosis unpredictable. RA affects up to 1–3% of the population, with a 3:1 female preponderance disappearing in older age. There is evidence of a genetic predisposition to the disease. RA is characterized by progressive and irreversible damage of the synovial-lined joints causing loss of joint space, of bone and of function, as well as deformity. Extracellular matrix degradation is a hallmark of RA which is responsible for the typical destruction of cartilage, ligaments, tendons, and bone [1-4]. Morning stiffness in and around the joints, lasting at least 1 h before maximal improvement is a typical sign of RA. It is a subjective sign and the patient needs to be carefully informed as to the difference between pain and stiffness. Morning stiffness duration is related to disease activity. To better define the clinical syndrome, some classification criteria have been developed [5-8]. Hence; under the light of above mentioned data, the present study was undertaken for assessing the frequency of haematological abnormalities among rheumatoid arthritis patients.

Materials & methods

The present study was conducted in the department of medicine and it included assessment of frequency of haematological abnormalities among rheumatoid arthritis patients. Ethical approval was obtained from institutional ethical committee and written consent was obtained from al the patients after explaining in detail the entire research protocol. A total of 121 RA patients were included in the present study. A self-framed questionnaire was made and complete clinical and medical details of all the patients were recorded. All the patients were recalled in the morning and blood samples were obtained. All the blood samples were sent to laboratory for assessment of haematological profile. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software.

Results

In the present study, a total of 121 patients were enrolled. Out of 121 patients, 57 patients belonged to the age group of more than 50 years while 21 patients belonged to the age group of 18 to 30 years. 43 patients belonged to the age group of 31 to 50 years.

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76 patients out of total 121 were females while the remaining were males. Mean Hb, mean TLC and mean ESR in the present study was found to be 10.15gm%, 10.19 per cu mm and 43.82 mm/hr respectively.

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Discussion
Rheumatoid arthritis (RA) is a systemic inflammatory disorder associated with significant proportion of haematological abnormalities. Prodromal symptoms such as fatigue, weight loss, transient pain in muscles and joints, sweating, paraesthesia and migrant swelling are often reported before the onset of the classical clinical picture. There is no single diagnostic test for the confirmation of Rheumatoid arthritis. Investigations are therefore used only to supplement the clinical findings. The most significant investigatory findings increased levels of rheumatoid factor and radiographic changes in the joints. Erythrocyte sedimentation rates, C reactive protein levels, circulating immune complexes, and platelet counts are often elevated in Rheumatoid arthritis and serve as indicators of disease activity [9-11]. Hence; under the light of above mentioned data, the present study was undertaken for assessing the frequency of haematological abnormalities among rheumatoid arthritis patients.

In the present study, a total of 121 patients were enrolled. Out of 121 patients, 57 patients belonged to the age group of more than 50 years while 21 patients belonged to the age group of 18 to 30 years. 43 patients belonged to the age group of 31 to 50 years. 76 patients out of total 121 were females while the remaining were males. Mean Hb, mean TLC and mean ESR in the present study was found to be 10.15gm%, 10.19 per cu mm and 43.82 mm/hr respectively. Getta HA *et al*. assessed the prevalence of different types of anemia and its correlation with the disease activity among patients with RA in Sulaymaniyah province and to determine the associated risk factors. A convenient sample of 100 rheumatoid arthritis patients was selected from patients seen in the rheumatology clinic. One hundred healthy voluntary controls of same age groups were selected and same parameters for diagnosis of anemia are used in both groups. The prevalence of all types of anemias among the rheumatoid Arthritis (RA) patients was 40% which more than that found in control group. The common types of anemia was anemia of chronic disease (28%), iron deficiency (10%), thalassemia minor (1%), and megaloblastic anemia 1%. We found a significant correlation of RA with each low hemoglobin, low hematocrit, high leucocyte count and high ESR. Anemia among RA patients in our study was significantly more prevalent among low socioeconomic status patients. The majority of RA patients had moderately or high active disease, which revealed no association between disease activity and anemia (*p* value=0.3). The prevalence and types

of anemias among RA patients in Sulaymaniyah was comparable to that found in other studies and it was two times common than the normal healthy peoples [5].

In the present study, anaemia was found to be present in 42.94 percent of the patients. Thrombocytosis was found to be present in 18.99 percent of the patients while leucocytosis was found to be present in 8.26 percent of the patients. Gawali PS *et al*. Studied clinical profile of rheumatic patients having infections including correlation of infection with different parameters and DMARDS and to study incidence pattern of various infections. Duration of study was six months. A total of 300 patients where studied out of which 50 were cases and the rest were control. Incidence of infection was high in extremes of age. Overall incidence of infection was slightly higher in females. Infection rate was 16.66%. Incidence of infection was highest among vasculitis group. Kidney was the most common organ involved. Incidence of infection was more in patients having anemia and leukopenia. Tuberculosis was the most common infection found in Rheumatic patients. Infection was more common at extremes of age and more common in females [12].
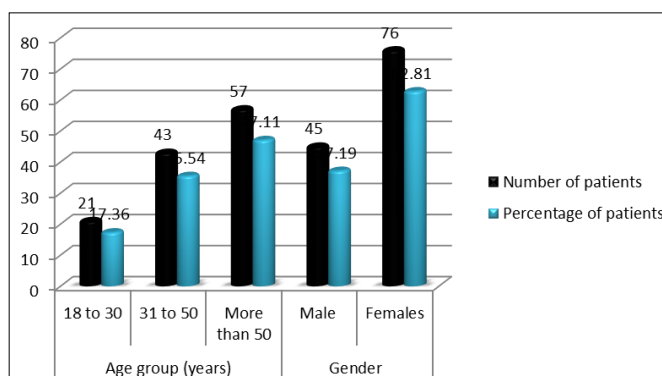
Graph 1: Demographic details
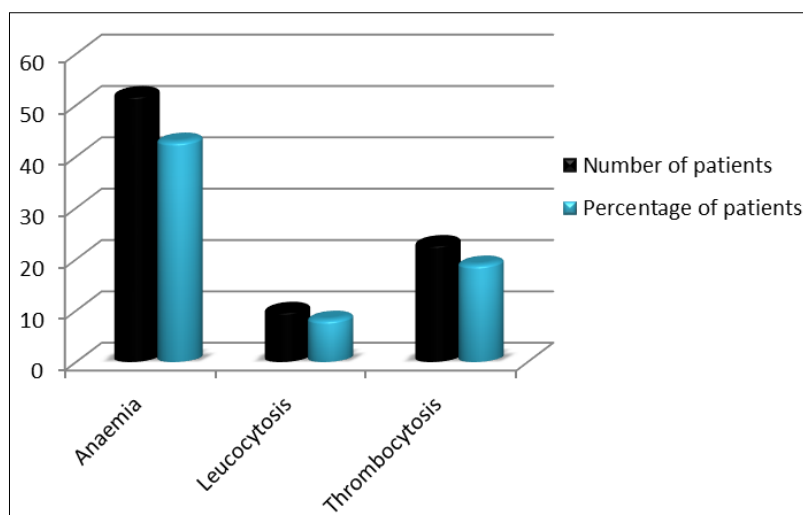
Table 1: Descriptive parameters

Parameter	Number
Mean Hb (gm %)	10.15
Mean TLC (per mm^3)	10.19
Mean ESR (mm/hr)	43.82
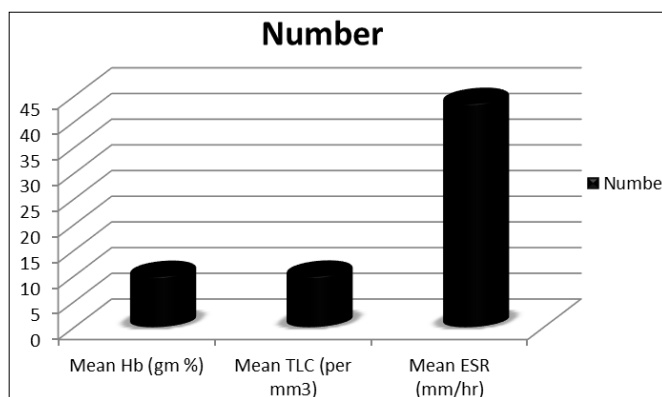
Graph 2: Descriptive parameters

Table 2: Frequency of haematological abnormalities

Haematological abnormalities	Number of patients	Percentage of patients
Anaemia	52	42.94
Leucocytosis	10	8.26
Thrombocytosis	23	18.99

Graph 3: Frequency of haematological abnormalities

Conclusion
Under the light of above obtained data, the authors concluded that Haematological abnormalities are commonly seen in RA patients. However; further studies are recommended.

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