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The Impact of Both Types of Leukemia on the Concentrations of Alpha-TNF and serum C and Serum Immunoglobulin in Both Sexes

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Abstract

Vascular leukemia is a malignant disease that affects the tissues that form the blood cells. These cells are carcinogenic and occur due to the deficiency of cells to differentiate and develop to be normal blood cells. The acute leukemia includes two types of acute and chronic, the seriousness of the disease on human life and its ability to infect all age groups, Gender The research is demonstrated to evaluate the level of tumor necrosis factor, active C protein and total white blood cells and their types in the blood of the study groups (leukemia patients and control) The research is conducted in the period from September 2018 until the end of April 2019 in the center of the province of Kirkuk specialized for tumors and blood diseases. Blood samples are collected from 141 patients with leukemia and 30 normal subjects (control group) in different age groups.

Keywords: *leukemia, alpha-necrotic factor, active C protein, white blood cells*

Introduction

Lungemia is a group of malignant diseases that begin in the bone marrow, infect cells that generate blood cells and multiply in the bone marrow and circulatory system [1]. The number of red blood cells and platelets in the blood decreases [2] Excessive egg blood but these abnormal cells are abnormal and do not perform normal functioning [3]. There are two types of leukemia, the first type acute leukemia, which is characterized by spleen swelling and bleeding or inflammation of the gums, and then symptoms of fatigue, exhaustion, lupus and general weakness due to anemia and appear to stained purple color on the parts of the body due to lack of platelets as well as enlargement lymph nodes (Tamimi, 2007). The condition of the patient worsens quickly and affects children (under 15 years of age) more than the elderly [4] The second type is chronic renal leukemia, which is the result of anorexia nervosa. It is characterized as one of the disorders of the immune system. It has about 15% of the total number of different leukemia diseases and affects all age groups, but its incidence in the elderly is more common. [12]) The causes of both types of infection are not yet known to be definitive, but scientists have attributed the causes of the disease to several factors, including viral, genetic or environmental factors such as smoking, exposure to chemicals or nuclear explosions [4]. Of cancers, including leukemia, and that the chance of leukemia increases with aging because of the high level of free radicals in the body as age increases and the ability of the immune system to remove toxins from these free radicals [12] .For example [6]. Thus, laboratory tests, for example, a smear test or a full blood picture, a decrease in the proportion of hemoglobin in the blood, and a rise in total blood cells Eggs, high blood cells, lymphocytes, and only the search for aromas in the blood smear (salaf), and then the bone marrow test and the search for the aromas, and the spasms in the white blood cells are lower than in the normal state (Hoffbrand, 2006). French, British and American scientists have categorized each of the above species into several branches. Acute acute leukemia with nine branches or subtypes, acute and undifferentiated acute leukemia and leukemia, primary growth aromas, leukemia, complete growth aromatics, leukemia, leukemia, leukemia, purulent leukemia, leukemia, [8]. Chronic leukemia was categorized into leukemia with the presence of the Philadelphia chromosome and leukemia, the absence of the Philadelphia phytochemical leukemia (Hoffbrandet ar, 2006). The treatment of the disease lies in early

detection of the disease [9]. Treatment immediately after the diagnosis begins by blocking the abnormal cells and then eliminating them and the stage The first step is to strengthen and stabilize the first stage. For example, anthraxycin and cytosine compounds are used for 3 and 7 days respectively, and then Cytarabine is treated with one of the drugs. All these drugs attack normal blood cells. Bone, [10] . In addition, there are other methods of treatment, including targeted therapy, radiotherapy and biologic therapy [11]) Materials and Methods of Work: The study was conducted at the Kirkuk Specialized Center for Oncology and Hematology. The samples are collected from patients from the beginning of September 2018 until the end of April 2019. Blood was collected from 141 patients diagnosed with leukemia by a blood diseases specialist and 30 healthy people Control) after conducting routine laboratory properties to ensure their safety from any diseases were different ages and both sexes, And withdraw 5 ml of each person's blood and separated into two parts Part I 2 ml Put in a test tube containing anti-clotting for tests on the total white blood cells and types and add the second part 3 ml in a glass tube and leave it for 20 minutes at room temperature and then Place the centrifuge at 3000 RPM for 15 minutes to receive the serum For the testing of the tumor necrosis factor and the effective C protein, put the first part of the blood in the Ruby autoanalyzer and give the device instructions to withdraw blood and read the full blood image The result appears on the screen G and tender instruct the device to pull the result of a tethered printer and knowledge of it after we write down the patient's information on (name, age, sex, date) The second part of the blood after we get the serum of it we begin to conduct test checks tumor necrosis factor alpha and by the steps:

1_Prepare the solutions according to the instructions of the processed company and according to the information received from DRG International, Inc., USA,

2_Reading absorption at a wavelength of 450 nanometers by an ELISA reader

Write the results in the questionnaire for each person (patients and control)_3

We also carried out the effective protein c test as instructed by Spanish company Linear.

Statistical analysis: Perform all statistical analyzes in this study and calculate the mean variables and frequency distribution of the variables and compare them between the study groups through the T-Test.

Results

The results of the statistical analysis showed a high morale (p00.01) for both the level of the tumor necrosis factor and the active c protein in the serum of patients (mean 8.79 ± 4.20, 1.90 ± 0.381) respectively, (P <0.05) in the total number of white blood cells (WBC) in the blood group of patients compared with the control group at an average of (21.6 ± 6) , 15 and 6.18 ± 1.46) respectively, and showed a high morbidity of both lymphocytes and only blood cells in patients with an average of 42.7 ± 5.95 and 7.4 ± 11.9 respectively In comparison with With mean control group (mean 34.7 ± 5.9 and 1.8 ± 1.3) respectively, while a significant decrease in blood white blood cells was observed in patients' blood with an average of 48.4 ± 19.6 compared to The control group recorded an average of 61.1 ± 6,7

Table 1. The results of the statistical analysis

Variables	Mean and standard deviation	
TNFα tumor necrosis factor	Control group	4.76 ± 1.68
	Group of patients	8,79 ± 4,20
Active C protein	Control group	<From 0.5
	Group of patients	1,9 ± 0.38
Total white blood cells	Control group	6,18 ± 1.46
	Group of patients	21.6 ± 6.15
White blood cells of neutrophil	Control group	61.17 ± 6,77
	Group of patients	48.4 ± 19.6
Blood cells of lymphocytes	Control group	34,70 ± 5,95
	Group of patients	42,30 ± 18,3

Cont... **Table 1. The results of the statistical analysis**

White blood cells monocyt	Control group	1,87 ± 1.31
	Group of patients	7.4 ± 1.19
White blood cells esoinophil	Control group	1,47 ± 1,17
	Group of patients	1,04 ± 1,64
Blood cells of basophil	Control group	0.667 ± 0.606
	Group of patients	0.43 ± 1.18

While no significant difference was observed in the proportion of white blood cells of the menstrual and acid between the average group of patients compared with the control group.

Discussion

In this study the results of the white blood cell count were significantly higher in the group of patients compared to the control group and this result can be interpreted according to [14]. When leukemia occurs, a female proliferation of leukemia cells occurs at any stage of its maturation in the bone marrow. This works on the elevation of abnormal white blood cells in the bone marrow and peripheral blood. This result can be explained according to [14] and works to reduce the performance of the work of these cells and thus reduce the immunity of the patient and therefore infected the patient at this stage microbial infections and this explains the high rate of factor necrosis alpha is a cytokine protein involved in the process against inflammation in the body in this case needs to increase by [15] C-reactive protein (C) is an anti-inflammatory protein that collects on the surface of dead, diseased or carcinogenic cells and around different types of microbes. It is present in the blood at elevated levels depending on the inflammatory state and is installed in the liver in response to factors released from the thrombocytopenia [16]

Conclusion

In the statistical analysis of the tumor necrosis factor alpha and b-C, the significant increase is significantly increased (p00.01) in the serum of patients with leukemia (8.79 ± 4.20, 1.90 ± 0.381 respectively) compared with the control group, (0.76 ± 1.76 ± 0.4 ± 0.1) respectively. There is also a significant increase in the total number of white blood cells (WBCs) and lymphocytes (P00.01) Control group while white blood cells recorded a significantly lower morale compared to the control group while no significant difference may be observed in white blood cells as well as the acidity between the mean group of patients and the mean control group, the results under study show a positive relationship between the alpha-prophylactic factor C and the total number of white blood cells.

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Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the University of Tikrit \ Faculty of Education for Pure Sciences, Iraq and all experiments were carried out in accordance with approved guidelines.

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