

Study of the Immune Response of Diabetic Patients in DhiQar Governorate

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ABSTRACT

It appears that many of those who die from the new Coronavirus pandemic are getting more damage to their immune systems than they do from the virus itself. A virus infection can set off a storm of cytokines—a sudden large increase in cell-signaling proteins that drive inflammation—that hit the lungs and attack tissues, and that storm could also result in damage to the body's organ systems and death. But this phenomenon is not limited to infection with “Covid-19”, but it sometimes occurs in some cases of severe influenza as well. A new study was recently published that highlights one of the metabolic mechanisms that help drive this rampant inflammatory response.

Introduction

Diabetes mellitus is a chronic and important physiological disease Which spread widely, but exceeded it to constitute one of the most important diseases of the era as it affects Diabetes mellitus, all human societies of all age groups, is more common In middle age and afterlife. One of the reasons for being interested in this disease is that those exposed to infection Diabetes is more than people with diabetes, and the truth is it is said that diabetes is simple If we treat it as a risk, then it is a danger. If we treat it as simple, then diabetes is Illness that affects the patient's body and is characterized by high blood sugar level as a result of anorexia Or the lack of effectiveness of insulin, or because of both, as insulin is one of the hormones of the same The important effect on blood components, if the increase was permanent, then this condition is known as a disease Diabetes As well as the lack of this hormone leads to an imbalance in the processes Representation of carbohydrates, proteins and fats Diabetes mellitus can be divided into two types

. The first type is insulin-dependent diabetes

The second type is Insulin Dependent Diabetes Millius (IDDM). Insulin Dependent DiabetesNone-Millius (IDDM) indicates a disorder of hormonal status in patients with ADD Diabetes leads to many changes in blood components, the most important of which is an effect on the population. The overall white blood cell count, as well as a deficiency in its function, also affects the rateErythrocyte sedimentation

2- Aim s of the study :-

Statement of the effect of diabetes in the blood, which included: -

1. . Hemoclopin blood concentration
2. . Total white blood cell count -.
3. - Hematocrit
4. - Red blood cell sedimentation rate

3- Literature Review-

diabetic :-

3-1 :Diabetes mellitus is a clinical syndrome characterized by clinical disorders attributable to reduction Absolute or relative to the action of insulin on the tissue (Belfore and Mogens

The name "Diabetes" was written in the first century AD, where this means

The Roman word (Siphon) denotes the excretion of large quantities of urine and the word (mellitus) means honey, referring to the sweetness found in urine.

2-3 Diabetes complications: -

All the disorders that accompany this disease lead to the emergence of several complications Including high ketoacidosis as severe complications as well as complications Chronic kidney failure (Failure Renal), where the permeability of the glomerular membrane increases This leads to the production of proteins, the decrease in serum albumin, and then the increase in serum blood pressure

3-3 Insulin Hormone:

It is one of the hormones that have a great effect in the body, as its deficiency leads to an increase The level of serum glucose, which is a low molecular weight protein of 58.8 Dalton in

The human and insulin polypeptide form consists of two non peptidine chains Two branched amino acids:

- Peptide chain (A) comprising 21 amino acids
- The peptide chain (B) consists of 30 amino acids bonded to a disulfur (ELKind et al 2..2)

5-4Methods

1-5-4 Total white blood cell count: -

I used the method of counting blood cells and dilution solution ((Turkes fluid) to calculate the number Total white blood cells ((Tiffert et al. 2) put (., 4 ml) of blood count Shake the mixture well, then transfer a drop of the mixture to a cell counter and after placing a cap

The slide and left for two minutes to stabilize the cells and transfer the cell counter to the microscope and examined under the forces of magnification (X.1) and then count the number of cells at the angles of the blood cell counter.

2-5-4 Determination of hemoglobin concentration:

The hemoglobin (Hb) measuring device and Drapkin solution were used as a dilution solution Estimate hemoglobin concentration in the blood sample (2.2; Vozaova et al) put 5 mL of Drabkin's solution was in a clean test tube and then (2 ml) of the withdrawn blood was added to it

The tube was shaken well and then left for (.1 minutes) then the hemoglobin scale yellowed (Hb) with distilled water

Then the tube was placed in the device, where the value of hemoclobin Hb appeared on the gauze of the device separately (g / dl)

3-5-4 Blood Stack Measurement: -

Capillary tubes, a micro-centrifuge, a hematocrit scale, and determination of the percentage of hematocrit (2.2); Yamada et al. The blood flowed into the capillary tube leaving about (15 ml) of the unfilled tube and then closed one end with artificial clay Then, they were placed in the microcentrifuge and the device was run for (5 minutes) at a speed (11 ... RP M). The tubes were then extracted from the micro-centrifuge.

4-5-4 Measurement of red blood cell sedimentation rate: -

The Wester Crane erythrocyte sedimentation rate (2.2; OKazaki (et al)) method was used (5 ml) of the dilution solution was placed in a glass tube in which 2 ml of blood was added, mixed well and then the resulting solution was withdrawn with a pipette and a Crane suspended in a vertical position for a period One hour after which the (E. S. R) value was read and recorded in units (mm / hour).

RESULT

TABLE NO. (1) SHOWS THE RELATIONSHIP OF WEIGHT AND VOLUME OF PRESSURIZED CELLS IN PATIENTS WITH DIABETES

AGE GROUPS	THE WEIGHT		PCV		
	PCV		The wait		Age groups
	Patient	Normal	Patient	Normal	
	36%	51%	51	54	22-12
	32%	48%	69	82	33-23
	43%	43%	66	.8	44-34
	39%	44%	62	65	55-45
	43%	42%	74	75	66-56
	52%	48%	65	85	77-67

When observing the weights of normal people, there are significant differences Below the indication level.),. 5) where the arithmetic t category reached ((4.66) while In the tabular t is (2.45) 2, there was an apparent lack of weights and class Those most affected are (77-67) and (44-34) • As for (P.C.V), there were no significant differences below the significant level (.),. (5) Between normal and sick persons, as the arithmetic value of

TABLE NO. (2) INDICATES THE RELATIONSHIP OF DIABETES, ERYTHROCYTE SEDIMENTATION RATE AND PERCENTAGE

AGE GROUPS	THE WEIGHT	PCV	
	PCV		The wait

Patient		Normal		Age groups
Patient	Normal	Patient	Normal	
36%	51%	51	54	22-12
32%	48%	69	82	33-23
43%	43%	66	.8	44-34
39%	44%	62	65	55-45
43%	42%	74	75	66-56
52%	48%	65	85	77-67

Hemoglobin of the blood With regard to (E.S.R), there are significant differences below the level of significance (0.05) between normal and sick persons, as it reached the arithmetic t (3.12) while the tabular value of t is (2,) 45 where the increase was clearIn the age groups, especially the category (55-45), where the percentage was highFor sick people.

• As for hemoclopin (Hb) Hb, there are significant differences below the level where the arithmetic value of t reached (5, 4) while the tabular value of t is

(2, 45) The ears there is a clear fluctuation with the rise and fall of Hemo Klopen

There are age groups in which the hemoclopin (Hb) level is higher

For sick people (44-34), (66-65 and (77-67), which were

The percentage of increase is the highest, but there are age groups in which the percentage of hemo decrease Klopen, namely (12-22), (33-23) and (55-45), where it was the most popular category Affected by the decrease in hemoglobin for patients it is (0)As for hemaklopin (Hb), there are significant differences below the level (5,,) Where the mathematical value of t is (5.4) while the tabular value of t is (2,45) So, there is a clear fluctuation with the rise and fall of hemoglobin, and there are age groups in which the hemoglobin (Hb) ratio has increased in relation to For sick persons (44-34), (66-65) and (77-67), which wereThe percentage of increase is the highest, but there are age groups in which the percentage of hemo decrease Klopin, which is (12-22) and (33-23), where the group most affected by the decrease in hemoclopin was(23-33)

TABLE NO. (3) SHOWS THE RELATIONSHIP OF DIABETES TO THE DIFFERENTIAL NUMBER OF WHITE BLOOD CELLS

PCV		The wait		Age groups
Patient	Normal	Patient	Normal	
36%	51%	51	54	22-12
32%	48%	69	82	33-23
43%	43%	66	.8	44-34
39%	44%	62	65	55-45
43%	42%	74	75	66-56
52%	48%	65	85	77-67

As for (W.B.C), there are significant differences below the level of significance (0,05), Where the arithmetic t reached (13,5) while the tabular value of t is (2,45) where

The increase was evident for the sick and most vulnerable people Height is (33-23) As for the other factors, which are the patient's environment, his marital status, the inheritance of the disease and the incidence of blood pressure, there is no clear effect that indicates, for example

The patient's environment from a population side in the city center or district, or his marital status is married or single, or if the disease is hereditary or not, or if he has blood pressure or no

DISCUSSION

It was found from the current study that there are significant differences in the weights of diabetic patients, as it was noticed that there is a clear lack of weights, especially in the groups.

The age ranges between (44-34) and (77-67), and this is what the researcher's mechanism reached in addition

Until the pressurized cell volume (C.V.P) was not affected by diabetes No significant differences appeared, and this is what the researcher's mechanism indicated (2.2;

Vozaova et al), while the erythrocyte sedimentation rate was lost It showed a clear increase in the age groups (55-45), where the percentage was high for sick people, and this indicates the effect of the hormone erythropoietin, which is Responsible for the formation of erythrocytes in the bone marrow through stimulation of Mahs Hemocytoblast, and this is what the researchers found (Tiffert and perdomo 2). The study showed a clear fluctuation with the rise and fall of the hemoglobin level There are age groups in which hemoglobin has increased

They are (44-34), (66-56) and (77-67) and there are age groups in which they may be reduced

Hemoglobin is (22-12), (33-23) and (55-45) indicating that a disease Sugar may cause malnutrition, leading to iron deficiency, especially in groups Young age As for older age groups, diabetes has led to

An increase in the level of hemoglobin in the blood, and this is what the researchers found (Yamada and) .kentaro 2 The current study showed a significant increase in the number Differential white blood cells (W.B.C), especially in young age groups, and this may be due to an increase in the level of blood sugar, which led to the body's resistance Regarding the other factors, which are the patient's environment, his marital status, the inheritance of the disease and the incidence of blood pressure, there is no clear effect on it that indicates, for example, that the patient's environment is in terms of a dwelling place.

City or district center or marital status is married or single, or if he has a hereditary disease or not, no significant differences were shown in the current study.

CONCLUSION

This study was conducted in the laboratories of Al-Diwaniyah Teaching Hospital in DhiQar Governorate. Blood samples were examined for (25) patients with diabetes, and after conducting the necessary tests, the following were found: -

The study showed weights of normal people and patients, so there are significant individual differences below the level of significance, as it was noticed that there is a clear lack of weights, especially for the age groups (77-67)(44-34)

2. As for the volume of pressurized cells, there were no significant differences below the level between normal and sick subjects.

3. As for the erythrocyte sedimentation rate (E. S. R), significant differences were observed below a level between normal people and patients, as there is a clear increase in age groups, especially the group between (55-45), as it was high for patients.

4- There are significant differences below the level of the ears, there is a clear fluctuation with the rise and fall of hemoclopin (Hb). There are age groups in which the percentage of hemoclopin (Hb) has increased in relation to sick people, which are (44-34), (66-65) and (77-67), which were the highest. The rate of increase As for there are age groups in which the percentage of hemoclopin (Hb) Hb decreases, namely (22-12) and (33-23) (45-55), where the group most affected by low hemoclopin (Hb) Hb for patients is (33-23)

5. As for the differential number of white blood cells (W. B. C), there are significant differences below a level where the rise was clear, and the category most affected by the elevation for people with patients is (33-23).

6. As for the other factors, which are the patient's environment, his social condition, the inheritance of the disease and the incidence of blood pressure, there is no clear effect in it indicating, for example, that the patient's environment in terms of housing in the city center or district, or his marital status is married or single, or if the disease is hereditary or not, or if he suffers from blood pressure Or not

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