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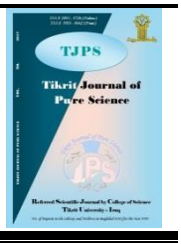

Some Biochemical parameters Of People With Atopic Eczema And There Comparison With Normal People

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Abstract

The present study aimed to identify the biochemical changes in sera of patients with Atopic Eczema, which included some blood analysis included serum urea, uric acid, creatinine, cholesterol, blood glucose, albumin, total protein, calcium, GPT, ALP, total serum bilirubin. Samples were collected from 19 August to 19 December in Salahelddin Hospital in tikrit city, the study included 94 sample, 65 from patients with Atopic Eczema, and 29 healthy people as a control group, the results were compared between the Atopic Eczema patients group and the healthy control group, and there was elevation in blood urea, uric acid, ceatinine, total protein, GPT, ALP, TSB,(34.9±22.10), (5.49 ± 4.38), (0.788± 0.669), (7.34 ±6.41), (13.38 ±6.96), (13.63± 8.52), (0.831±0.190), respectively. And there was no elevation in, total albumin, cholesterol, calcium, blood glucose, (4.595±4.321), (161.5± 148.1), (8.96 ± 9.13), (109.3± 105.3), respectively when compared between patients group and control group.

Introduction

Atopic Eczema (AE) It is one of the most common skin diseases affecting infants, children and a small group of adults who have a chronic or newly developed AE, The symptoms are the appearance of itching and redness of the skin to get roughness in the area of infection, but these symptoms vary from person to person according to certain circumstances of the environment outside and inside the skin in the case of the injury either chronic or acute, and other minor injuries with atopic eczema like skin infection (bacterial, viral, fungal), Malignant tumors, genetic and immune disorders [1].

Now found that the incidence of AE in children is possible And with a probability of 30% can develop the incidence of asthma during lifetime[2], AE can occur in children in age of 1.5 to 2 years and only 3% of 5 years old diagnosed with AE [3]. Atopic Eczema is usually inheritance between families, so if one of the parents have eczema so one of their kids would have eczema, usually, the symptoms of eczema coincide from severe to less severe and then return to become acute again, as the continuous itching of the patient causes sleep disturbance of the patient causing fatigue and lack of Sleeping [4].

Diagnosis of the infection is usually done by knowing the history of the family in the incidence of dermatitis, which is the most important component of the diagnosis and through the symptoms and signs of the disease on the skin there is no test to diagnose the disease, as well as if it began before the age of two years or that there are any other related diseases such as asthma or allergies towards certain foods [5] , there is no certain way to treat eczema but can be avoided by keep away from irritant substances like cosmetics and as well as food that irritant the eczema, and the moisturizers as well as some creams can be used to reduce itching and redness [6].

The aim of the study

1.study the effect of eczema on the blood glucose concentration level of patients with eczema by analyzing blood glucose and comparing it with healthy people.

2. find out how affected the kidney function in eczema patients is by measuring a number biochemical parameters (urea, uric acid, creatinine, total protein) and comparing it with healthy people.

3. study the effect of the eczema on the liver function by analyzing GOT, GPT, ALP, enzyme activity and total serum bilirubin concentration in the blood and comparing it with healthy people.

4.Study the effect of eczema on patients heart and comparing it with healthy people.

5. analyzing the calcium level concentration in the eczema patients blood and comparing it with healthy people.
6. Knowing the albumen concentration level in the blood of eczema patients.

Patients and methods

The study included 65 patients with atopic eczema, 36 female and 29 male and 29 healthy people (control) and placed in three age groups1. Age from 1-20 years 2. Age 21- 40 years, 3. Age 41-60 years. The patients diagnosed with eczema by a dermatologist at Salahelddin General Hospital, the samples were taken and placed in a centrifuge to separate the serum from the rest of the blood components and to treat the serum as following:

1.cholestrol: the serum was treated to determine the cholesterol concentration level in the blood by using a kit from an Egyptian company[7]

2. urea: the serum was treated to determine the urea concentration level in the blood by a colorimetric method using a kit from a British company[8].

3.glucose: the serum was treated to determine the glucose concentration level in the blood by a colorimetric method using a kit from an Egyptian company[9].

4.uric acid: the serum was treated to determine the uric acid concentration level in the blood by a uricase-POD enzymatic colorimetric method with 4-amino antipyrine using a kit from an Egyptian company[10].

5. albumin: the serum was treated to determine the albumin concentration level in the blood by modified bromocresol green colorimetric method using a kit from an Egyptian company[11].

6. ALP: the serum was treated to determine the Alkaline phosphotase enzyme activity in the blood by enzymatic colorimetric method using a kit from an Egyptian company[12].

7.GPT: : the serum was treated to determine the GPT enzyme activity in the blood by a colorimetric method with using a kit from an Egyptian company[13].

8.creatinine: the serum was treated to determine the creatinine concentration level in the blood by enzymatic colorimetric method with using a kit from an Egyptian company[14].

9.total protein: the serum was treated to determine the total protein concentration level in the blood by enzymatic colorimetric method with using a kit from a France company[15].

10. calcium: : the serum was treated to determine the calcium concentration level in the blood by O-Cresol phatalein complexone method with using a kit from a France company[16].

Statical analysis

The statical analysis was done by the T-test using (minitab) program. [17]

Results and disscution

Results were compared with control sample to determine the presence or absence of differences between patients and healthy individuals results , as in Table 1. The results showed that there was a significant increase in urea, uric acid, creatinine, total protein concentration level, ALT, ALP activity, TSB concentration level, (34.9± 22.10), (5.49±4.38), (0.788± 0.669), (7.34± 6.41), (13.38± 6.96), (13.63± 8.52) and (0.831± 0.831), respectively in atopic eczema patients when compared with healthy group .

The high level of urea in the serum was consistent with the results of a recent study that the incidence of eczema is accompanied by an increase in the level of urea, which is due to the use of steroids continued from childhood, kidney damage may be caused by eczema or vice versa [18], and the high level of uric acid where it agrees with there is a rise in the level of uric acid in 14 out of 20 people with eczema [19].

In the high creatinine level, it corresponds to [20], which is people with eczema show a 3-fold increase in creatinine than normal persons.

And the high level of total protein in patients with eczema differed with [21] as people with eczema showed a decrease in total protein Especially in children. The high level of GPT or ALT corresponds to the high rate of this enzyme and according to a study conducted on patients with eczema, psoriasis and others found a rise in the level of the enzyme GPT because the liver reflects the skin because the inability of the liver to get rid of toxins and large protein molecules lead to transit these toxins and molecules to the circulation and transit to the skin causing irritation, especially for people with eczema[22].

The high activity of ALP corresponds to the fact that its elevation in patients with eczema is attributed to a defect in the liver and the high proportion of this enzyme associated with having eczema [23], For the high TSB level in eczema patients, these results correspond to [24] as patients with eczema showed a high TSB level, especially in children. The study also found that of 65 patients with eczema, (42) of them had asthma and allergic rhinitis, [25] and 29 patients with a high sensitivity to foods such as legumes, meat, eggplants and hot spices, [26].

As for blood glucose, there was a rise in the third age group of the age of 41 years to age 60 years by 184.7 + 82.7), which did not correspond with that it was found that children are more likely to have type 1 diabetes with eczema [27].

Conclusions

1.in the kidney function test, there was significant increase in urea, uric acid, creatinine, total protein concentration level.

2 in the liver function test there was significant increase in GPT, ALP enzyme activity and TSB concentration level, and there was no elevation in albumin concentration.

3. its found that patients with atopic eczema have no elevation in cholesterol, calcium and blood glucose concentration level, but there was increase in blood glucose concentration level in the third age group (41-60 years).
4. there was a relationship between food allergy and eczema that food included (legumes, hot spicy food, meat).
5. there is relationship between eczema and asthma.

Recomndations

1.do further tests for the liver function and make sure this organ is injured .
2. make a further study on the asthma and its causes and its relationship with eczema
3. make a further allergic food tests for eczema patients for there allergy to meat and spicy food and high sugar food.
4. do a further study for kidney function test for eczema patients, and comparing it with healthy people.

Table 1 shows the levels of uric acid, creatinine, total protein concentration level GPT, ALP enzyme activity,albumin, cholesterol, calcium, RBS, and TSB concentration level when comparing results with healthy individuals

Groups / Parameters	Patients Mean SD±	Control Mean SD±	T-test
UREA	34.9 ±10.5	22.10 ±9.78	5.72** P≤0.0002
URIC ACID	5.49 ±1.82	4.38 ±1.45	3.17** P≤0.002
CREATININ	0.788 ±0.365	0.669 ±0.197	2.06* P≤0.043
TOTAL PROTEIN	7.34 ±1.58	6.41 ±1.45	2.77** P≤ 0.007
GPT	13.38 ±3.25	4.38 ±1.45	11.61** P≤0.0004
ALP	13.63 ±6.27	0.669 ±0.197	4.75** P≤0.0002
TSB	0.831 ±0.687	0.190 ±0.187	9.96** P ≤ 0.0003
Albumin	4.595 0.884+	4.321 0.779+	ns1.51 p≤0.136
Cholesterol	161.5 55.0+	148.1 44.7+	ns1.25 P<0.217
Calcium	161.5 55.0+	148.1 44.7+	ns0.60 P<0.550
RBS	109.3 13.4+	105.3 17.9+	ns0.64 P<0.524

*means that p-value < 0.05, ** means that p-value < 0.001, ns means that p-value= 0.

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بعض المعايير الكيموحيوية للأشخاص المصابين بالحساسية الجلدية ومقارنتها مع الاشخاص السوية

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الملخص

الهدف من الدراسة هو معرفة التغييرات الكيموحيوية في مصل الاشخاص للأشخاص المصابين بالحساسية الجلدية (Atopic Eczema)، تم تحديد هذه التغييرات من خلال عمل تحاليل (الكوليسترول، اليوريا، حمض اليوريك، جلوكوز الدم، الالبومين، GPT، ALP، الكرياتنين، الكالسيوم، والالبومين الكلي والبروتين الكلي) تم جمع العينات في فترة من 19 من شهر اب الى 19 من شهر كانون الاول، في مستشفى صلاح الدين العام في مدينة تكريت. الدراسة تضمن 94 عينة، 65 منها من مرضى التهاب الجلد التاتبي و29 منها من اشخاص الاصحاء، تمت معاملة العينات حسب كل تحليل. تمت مقارنة النتائج بين مجاميع المرضى ومجاميع الاصحاء ووجد ان هناك ارتفاع في كل من اليوريا، حمض اليوريك، الكرياتنين، البروتين الكلي، ALP، GPT، TSB، (34.9 + 22.10)، (5.49 + 4.38)، (0.788 + 0.669)، (7.34 + 6.41)، (13.38 + 6.96، 8.52 +13.63) و (0.831 + 0.190) على التوالي عند المقارنة مع الاشخاص الاصحاء، ولم يكن هناك اي ارتفاع في كل من الألبومين الكلي، الكولسترول، الكالسيوم وجلوكوز الدم، (4.595 مقابل 4.321)، (161.5 مقابل 148.1)، (8.96 مقابل 9.13) و (109.3 مقابل 105.3)، على التوالي عند المقارنة مع نتائج الاشخاص الاصحاء.