



## **The relation-ship between some liver functions and blood parameter in the some coronary heart diseases**

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### **Abstract**

The study was carried out on thirty women and males patients with coronary heart diseases at age (35-70) year old , in the Al-Sader medical city / Al Najaf . the present study was involved blood parameter such as ( Erythrocytes Sedimentation Rate ) and hemoglobin beside the biochemical analysis was done such as cholesterol and triglycerides measurement, also the liver enzymes (GPT and GOT ) level was estimated.

Our result was revealed , the increasing in (E.S.R) of males patients (33.3% when compared with (E.S.R) in females which decline into (23.3%),while percent of the (Hb) decrease in female patients more than in the males patients ,were (36.3% , 33.3%) at respectively . the biochemical analysis was appeared elevation of the triglycerides percent in woman patients with cardiac diseases when compared with men patients , the percent was (43.4% , 36.6%) at respectively . from other hand the percentage of cholesterol in some patients men with cardiac disease was (10%) ,while the cholesterol percent in some women patient not significant differences.

The present study was noticed increasing in the liver enzymes (GPT) of patients women when compared with patient men were (20%. 13.3%) at respectively.

the aim of study to determine relation \_ship between some heart diseases and liver functions.

### **Introduction**

The coronary heart diseases are consider the common diseases in the world especially in the advance ages the world health organization (WHO) (1) was pointed that the heart and blood vessels diseases the main causes of death in both males and female the (WHO) mentioned in the year (2000) estimated the cases with heart congestive diseases in the united America stat (USA) was approximately (80) million American persons, so the congestive heart diseases are common the patients were pointed to disturbance in the blood vessels and heart may be ,this diseases is cause side effects on the main organs in the human body especially the organs related to the metabolism such the thyroid gland and the liver. The previous studies was conduct by (2), that the fatty liver diseases lead to accumulation excess of fat in the hepatic cells and the blood vessels walls due to these lipid accumulation which causes increases in the triglycerides and cholesterol in the blood ,the investigators was though these changes that extending from congestive heart diseases another previous studies was noticed the alteration on the liver function when acute congestive heart diseases occur and led to elevated to liver enzymes especially SGPT and SGOT (3,4,5) . The researcher (6) he found acute pulmonary insufficient led to heart failure.

Other previous studies (7) they mentioned the patient was suffered from fatty liver disease these patients exposed to coronary arteries diseases ,these authors was approach to elevation of liver enzymes in the patients with heart diseases and coronary arteries congestion the author was suggested these pathological cases due to many factors such as increases insulin resistance factor (diabetes) and obesity ,that consider predisposing factor for the arteriosclerosis.



### Materials and methods

The present study was carried out on the (30) patient with different coronary heart diseases they came to the Al-Sader medical city in Najaf, during the period extended from October 2011, to January 2012. This present study was involved men and woman at different ages was ranged from ( 35-70 ) year old , after examination by physician ( specialist in the heart and blood vessels diseases)were ensured these patients effected with myocardial infraction cardiac valves , hyper atrophy of heart ,disarrangement of heart beats.

Special carts were prepared , including laboratory analysis for blood parameters such as erythrocyte sedimentation rate (E.S.R), hemoglobin (Hb) some biochemical lab. analysis was carried out such as triglycerides and cholesterol the present study found relation-ship between the heart disease and alteration in the liver function for patients the GPT and GOT measurement was conducted the increasing and decreasing of these enzyme is consider bad dangerous point on the body organs. The biostatistical analysis was done by using (T-test) and Q-square , depending on the biostatic references (8).

### Result

The result was showed, in table (1) the percentage of triglycerides increases in patients females with heart disease more than patients males the percentage of triglyceride was reached in females (43,4%) while the percentage decreased into (36.6%) in the males.

Table (1):The percentage of triglyceride in the patients women of men, in the Al-Sader medical city / AL - Najaf

Gender	H.D.TG	Mean value of TG	%	Normal H.D.TG	Normal TG	%	Total
Females	13		43.3	1	150	3.3	14
Males	11		36.6	5	150	16.6	16
Total	24		79.9	6		19.9	30

The table(2):Mention the percentage of high cholesterol the patients males suffered from increase in high cholesterol of percent (10%) , while the patient females not appears any elevation in cholesterol .

Table(2):The high cholesterol percent of patient females and males in the Al-Sader medical city / Al Najaf.

Gender	High cholesterol	Mean value of cholesterol	%	Normal cholesterol	Normal cholesterol	%	Total
Females	3		10	13	200	43.3	16
Males	0		0	14	200	46.6	14
Total	3		10	27		89.9	30



While the table(3) showed elevation in the (E.S.R) in the patients males with heart diseases the percent was (33.3%) when compared with patients females (23.3%).

Table(3):Elevation of sedimentation erythrocytes rate in the patients females and males in the Al-Sader medical city / Al Najaf .

Gender	High evaluation ESR	Mean value of ESR	%	Normal ESR	Normal ESR	%	Total
males	10		33.3	6	2-15	20	16
Females	7		23.3	8	2-20	26.6	14
Total	17		56.6	14		46.6	30

In the table(4), the hemoglobin percent was decreases in the patients women with cardiac diseases (36.6%) but in the patients males (33.3%).

Table(4):Decreases the (Hb) percentage in the patients females and males with cardiac disease in Al-Sader medical city – Al Najaf.

Gender	Low Hb	Mean value of Hb	%	Normal Hb	Normal Hb	%	Total
Females	11		36.6	3	14	10	14
Males	10		33.3	6	12.5	20	16
Total	21		96.9	9		30	30

So the relation-ship of cardiac diseases with the liver function especially, liver enzymes Glutamic pyruvate transaminase (GPT) and Glutamic oxalic transaminase (GOT), our result was revealed evaluation in the (GPT) in the patients males with cardiac diseases the percent males was reached to (13.3%) in (four) patient from (16) patients, while more elevation percent in the patient females were approached to (20%) in (six) patients from (14) patient, as in the table (5) from other hand, the table (6) explain the elevation percent in the liver enzyme (GOT) in the patients males that suffering from cardiac diseases the percent of liver enzyme (GPT) was equal with (GOT) level in the patient females.

Table(5):The liver enzyme (GPT) level percent in the patients females and males in the Al-Sader medical - Al Najaf.

Gender	Normal GPT	%	Abnormal GPT	%	Total
Males	12	40	4	13.3	16
Females	8	26.6	6	20	14
Total	20	66.6	10	33.3	30

Table(6):The percent liver enzyme (GOT) level in the patients females and males with cardiac disease in the Al-Sader city Al-Najaf.

Gender	Norma l GOT	%	Abnorma l GOT	%	Total
males	12	33.3	4	13.3	16
females	8	26.6	6	20	14



Total	20	59.6	10	33.3	30
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Was suggested that development may be due to triglycerides precipitation and cholesterol elevation led to arteriosclerosis so in the final liver impairment and heart was occur as well as disturbance the metabolism processes which led to obesity these results was ensure by previous study (16) , and many other studies (17) was carried out on the thyroid gland disease they mentioned to relation between goiter and liver so the thyroxin (T4) and tri-iodothyronin (T3) had important rule in the arrangement of metabolism rate in the arrangement in the body cells (e.g. hepatic cells ) and any disturbance in the thyroid gland led to liver function impairment.

### Discussion

When compare this present study of cardiac diseases patients with liver functions disturbance, our result found the (GPT) enzyme was affected in the patients women and elevated when compared with patients men but in the previous studies (9) they pointed to elevation of bilirubin in the heart diseases patients, while the authors (10), they mentioned abnormal change was occurred in live transaminase prothrombin level, alkaline phosphate and albumin in the heart diseases patients, so those substances was declined and the heart failure which led to disturbances in the liver functions due to hepatic cells damage.

Previous studies was carried out by workers (11) on the thalassemia patients they noticed, the heart was affected via this diseases , which led to decreasing in (Hb) reach to (8.8+1.5 ) mg/L . also the liver transaminase e.g.(Alamine transaminase) was affected these result was ensured the liver exposed to abnormal alterations in cases of congestive heart diseases these results was corresponded with present study so the another previous studies (12,3,14,15) was pointed out to the relation-ship between fatty liver diseases in the patients was drink alcohol, they said the fatty liver diseases had a role in the development of congestive heart diseases the present study.

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### العلاقة ما بين وظائف الكبد ومعايير الدم في بعض امراض القلب التاجية

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الخلاصة

اجريت الدراسة على (30) مريض من الرجال والنساء يعانون من امراض القلب التاجية تراوحت اعمارهم ما بين ( 35-70 ) سنة . انتخب (15) مريض من الرجال و (15) مريض من النساء المرضى اللذين راجعو استشارية امراض القلب في مدينة الصدر الطبية في النجف عام 2011-2012 شملت نتائج الدراسة تنفيذ العديد من معايير الدم مثل قياس خصاب الدم (Hemoglobin(Hb) ، ونسبة ترسب خلايا الدم ( erythrocytes sedimentation rate ( E. S. R ) علاوة على اجراء بعض الاختبارات المتعلقة بقياس الدهون الثلاثية Triglyceride ومستوى الكولسترول cholesterol ومستوى انزيمات الكبد (GPT, GOT). تبين من الدراسة ان نسبة (ESR) لدى المرضى الذكور (33.3%) قياسا مع الاناث (23.3%). في حين انخفض خصاب الدم عند الاناث مقارنة مع المرضى الذكور فكان ( 33.3% و 36.3% ) على التوالي . وظهر ارتفاع مستوى نسبة الدهون الثلاثية عند المرضى من الاناث فكانت (36.3% و 34.66%) على التوالي. وارتفعت النسبة المئوية للكولسترول لدى مرضى الرجال بنسبة (15%) في حين لن يظهر اي ارتفاع مستوى نسبة الكولسترول جدير بالذكر في المريضات من النساء . اوضحت الدراسة الحالية ارتفاع انزيم الكبد(GPT) عند المريضات مقارنة بالمرضى من الرجال فكان ( 13.3% و 20%) على التوالي. الغرض من ذلك للوصول الى علاقة ما بين امراض القلب وبعض وظائف الكبد.



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