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The Relation-ship between Rheumatoid Arthritis Disease and Liver Enzymes Function, some minerals, Triglyceride and Cholesterol in The Najaf Province

Hassan Ali F[1], Wijdan Kamal Noor[2], Aseel kamel[2], Buthyna abdel Hassan naser[2], and Ahmad Aqeel[1].

[1]Al-Forat Al-Awsat University college of Health and Medical techniques kufa, Iraq.
[2]Kufa University, college of Girls Education, biology department, Iraq.

ABSTRACT

This study included One hundred patients were suffered from rheumatoid arthritis in the Najaf province hospitals (Al-Sadder and AL Hakeem hospitals) , the age of patients were (20-65) years old ,this study was involved (males and females) . Findings of present study was appeared decline the Glutamic Pyruvate Trans aminase (GPT) (32.84 U/L) and elevation in the level of Glutamic Oxalate Transaminase (GOT) (32.1 U/L) and Alkaline Phosphatase (ALP) enzymes (91.28 U/L) . The Sodium and Potassium concentration in the rheumatoid arthritis patients were observed decrease in the sodium concentration (134.8 mmol/L) while increase in the potassium concentration (4.58 mmol/ L). The cholesterol of the rheumatic patients was decreased(177.1mg/dl) , and triglyceride level had significant differences and increasing (117.1mg/dl) at (P > 0.05) .No significant value between males and females were infected by rheumatoid arthritis disease.

Keywords: Rheumatoid Arthritis, liver, Triglyceride

Corresponding author

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INTRODUCTION

Rheumatoid arthritis features was characterized via inflammation of movable joints of the human body such as synovial joints especially knee joint, the disease that led to damage the articular cartilage of the synovial joints (1). The percent of the rheumatoid arthritis in the adult Indian was (0.75%) from Indian population (2).the urban population in the Iran, the rheumatoid arthritis was recorded (.037%) (3), globally the prevalence of the rheumatoid arthritis was estimated in the general populations about (1%). the features of the rheumatoid arthritis was autoimmune disease, which caused by some pathogenic bacteria and led to chronic inflammation of the synovial joints (4, 5). The different of autoimmune rheumatoid disease involving lupus erythematous, rheumatoid arthritis, myositis, vacuities, Behest syndrome, anti-phospholipid syndrome and systemic sclerosis have been concerned with liver function (6). The patients with rheumatoid arthritis represented up to six percentage, which included liver dysfunction, the common cases with mild increase of alkaline phosphatase (7). The prognosis of the autoimmune disease, which lead to continues hepatic damage, and may be caused high titration of the rheumatoid factor (RF) and caused sero negative inflammatory arthritis (8). In chronic rheumatoid arthritis it can be complicated to generalize necrotic hepatic arteritis, continuous hepatic damage and liver infraction, which led to increase and decrease liver enzyme (9). From another hand the primary cirrhosis of bile duct may be develop (10). The percent study was aimed investigate the liver enzymes assessment and some mineral (Na+ and K++) in the rheumatoid arthritis patientsin the Al-Najaf province.

MATERIALS AND METHODS

One hundred patients were infected with rheumatoid arthritis in the Najaf province hospitals (Alsader, Alhakeem from period (October – December 2016).The age of the patients ranged between (20-65) years old, involved both gender (males &females). The rheumatic patients was diagnostic by rheumatology physicians according to clinical examination, which included Ethyrocytes Sedimentation Rate (ESR) and rheumatoid Factor (RF). The present study was measured the liver enzymes such as Glutamic Pyruvate Transaminase (GPT), Glutamic Oxalate Transaminase (GOT), and Alkaline Phosphatase (ALP),as well as measured some mineral such as Sodium and Potassium also determined the Triglyceride and Cholesterol levels according to (11). This study was identified the percent the females and males were suffered from rheumatoid arthritis. The biostatical analysis was used (SPPS.) (12), to find the significant differences values of the rheumatic patients when compared with healthy individuals.

RESULTS

The present study was revealed decreasing in the Glutamic pyruvate transaminase (GPT) liver enzyme when compared with healthy individuals, the GPT enzyme of the rheumatoid arthritis was recorded (32.8) u/L while the normal value of the (GPT) enzyme In the healthy persons were (36.8) u/L from another hand the Glutamic Oxalate Transaminase (GOT) enzymes in the patients with rheumatoid arthritis was increased at ($p>0.05$) and recorded (32.1)u/L when compared with healthy (26.7)u/L. The Alkaline phosphatase enzyme in the rheumatic patients was recorded high significant difference at ($p>0.05$) and reached to (91.28) u/L when compared with control individual (69.4) u/L as in the histogram (1). Some minerals such Sodium and Potassium was measure in this present study. Sodium in the rheumatoid arthritis patients were assessment decline non-significant difference at ($p>0.05$) it reach to (134.8) mmol/L, but the Sodium measurement in the control was recorded (138.9) mmol/L. The Potassium ions in the rheumatic patients had high significant difference ($p>0.05$) and recorded (4.58)mmol/L when compared with healthy (4.2)mmol/L , as in the histogram (2) . The histogram (3) was appeared the values of cholesterol and triglycerides in the rheumatic patients and control individuals, cholesterol was decline in the rheumatic patients and recorded (177.1) mg/dL, while the control persons, cholesterol was measured (186.4) mg/dL. From another hand the triglyceride had high elevation with significant difference at ($p>0.05$) and it, reach to (117.1) when compared with control (51) mg/dL. No significant differences between females and males were infect with rheumatoid arthritis as figure (1).

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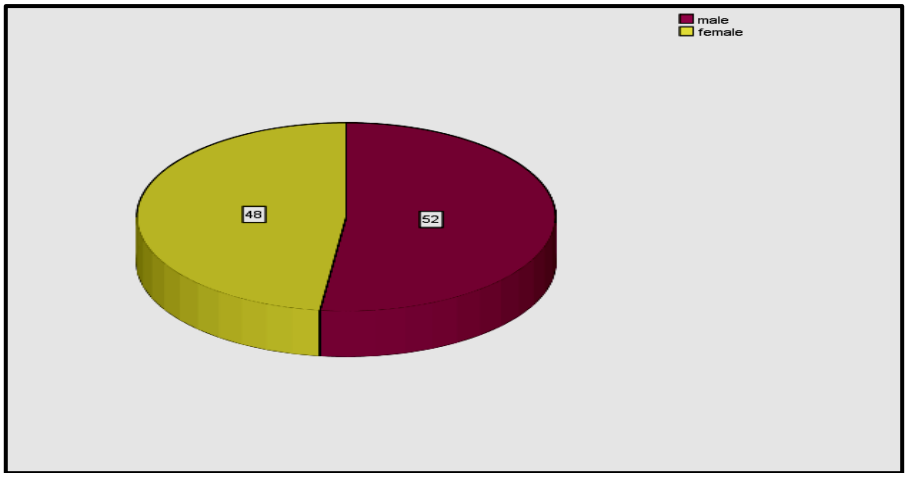
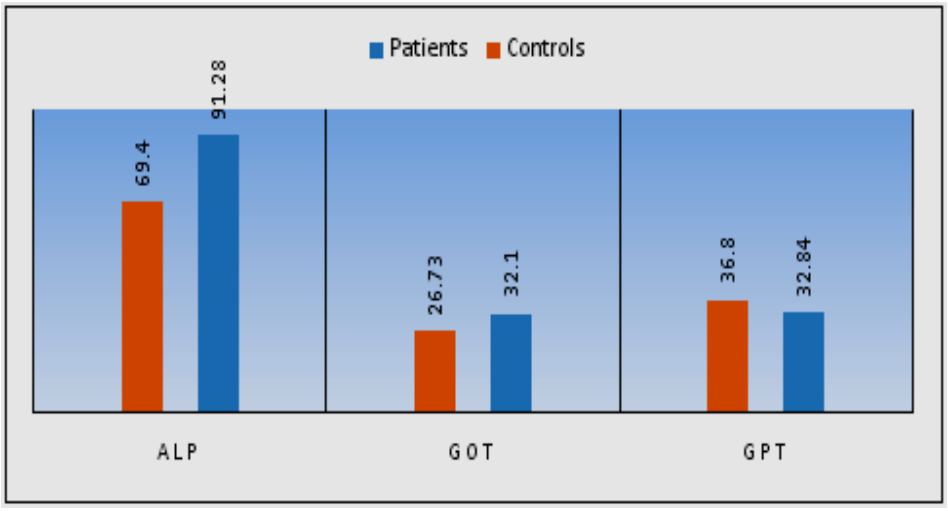
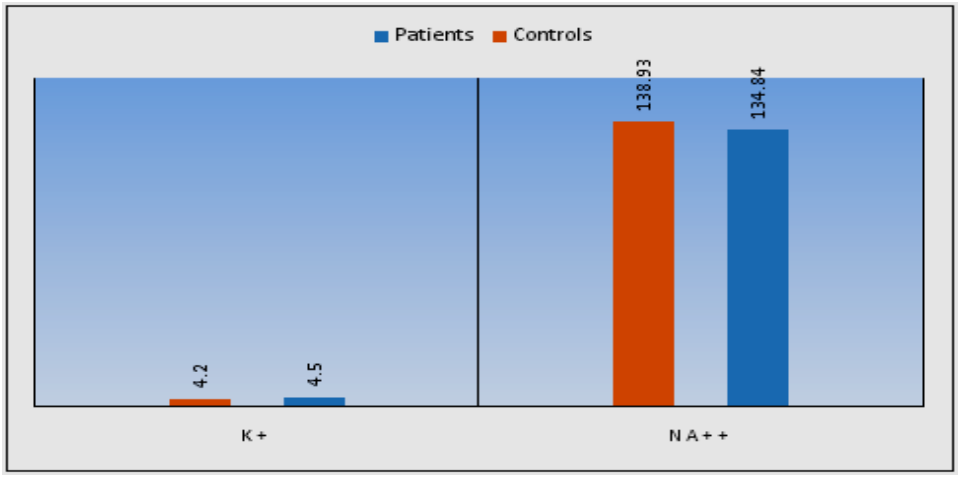


Figure 1 : showed the percent of males and females of the rheumatic patients in Najaf province



Histogram 1 : revealed the level of the liver enzymes in the rheumatoid patients in Najaf province



Histogram 2 : showed the concentration of the sodium and potassium ions in the rheumatoid patients in Najaf province

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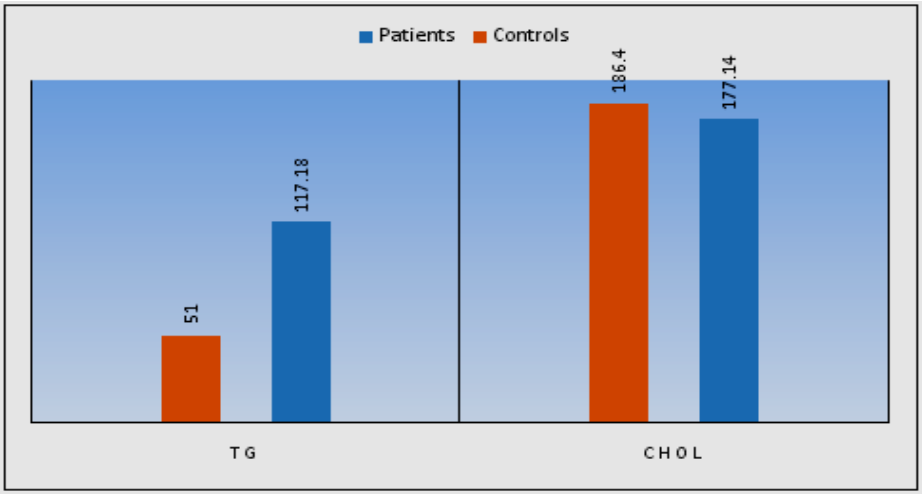

Histogram 3 :explained the levels of the triglycerides and cholesterol in the rheumatoid patients in Najaf province

DISCUSSION

The rheumatoid arthritis is related to liver function test , the percent study findings was revealed ,increase in the level of some enzyme of the liver such as alkaline phosphatase and glutamic oxalate transaminase (GOT) , the observation was similar to previous study (13.14) found ,increase complication of liver function test due to use Methotrexate (MTX) for treatment of rheumatoid arthritis patients .the side effect of, the some drugs which used for treatment of rheumatoid disease that led to liver a abnormalities, and causes hepatic toxicity , these suggestions was accordance with current work (15) . From another hand Jorge et al., (16) mentioned the liver toxicity is rare in rheumatoid arthritis patients which used, lflunomide and methotrexate drug as combination and other works (17) via rheumatology American college was published guidelines pointed out ,for the liver toxicity development due to use the methotrexate , these works involve (AST and ALT) measurement , this current work was cross ponding with present study .the results of this study was appeared significant decrease in the cholesterol level and high significant deference in the elevation of the triglycerides in the rheumatic patients ,from another , the Potassium level was increased at (P>0.05) when compared with control individuals, may be due to hepatic cell damage and released the fatty material in to the blood . The findings of the present study was differed with previous survey (18) mentioned the women is affect (two-three) times more than men, and 70% of the pregnancy women suffered from rheumatoid arthritis while in this present study the percent of the males was (52%) and females (48%).

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