# Summary and Conclusion

Systemic lupus erythematosus is an autoimmune disorder in which the body's immune system incorrectly attacks the body's own tissues and organs, leading to inflammation and damage **(Ringold, 2006)**.

Atherosclerosis has been increasingly recognized as an important cause of morbidity and mortality in systemic lupus erythematosus **(Shoenfeld et al. 2005)** and therefore, understanding the pathogenesis of this process seems important to give lupus patients a better long-term outcome and quality of life **(Borba et al.,2006).**

Hyperlipidemia is common in systemic lupus erythematosus. It has been shown to be an important predisposing factor for atherosclerosis in SLE **(Petri et al., 1992).**

An SLE-related dyslipidemia pattern has been documented, consisting of elevated triglycerides, lipoprotein(a) and VLDL, slightly increased LDL, as well as reduced HDL **(Nuttall et al., 2003)**. High triglycerides and low HDL are the most frequently observed lipid profile abnormalities in SLE.Total cholesterol levels may be either normal or elevated **(Borba et al 2006)**.

SLE dyslipoproteinemias worsen as disease becomes more active so that a marked increase in VLDL and triglyceride levels, as well as a decrease in HDL

levels, correlate directly with SLE Disease Activity Index (SLEDAI) scores **(Borba et al., 1997)**.

The aim of this work is to study the correlation between different lipid profile variables and both disease activity and renal involvement in patients with systemic lupus erythematosus.

This study was carried out on Thirty patients with SLE diagnosed according to the 1982 revised criteria of the American College of Rheumatology (ACR) for the diagnosis of SLE **(Tan et al., 1982)** . They were selected from the outpatient clinic and inpatient of Rheumatology and Rehabilitation Department of Benha university hospitals.In addition to Twenty apparently healthy individuals with matched age and sex were chosen as a control group.

All patients were subjected to full history taking, complete clinical examination, laboratory and radiological investigation. Lpid profile was performed on blood samples obtained from SLE patients after overnight fasting as following:

-Total cholesterol and triglycerides measured in plasma by the colorimetric method using commercial assays.

-High density lipid cholesterol using the direct HDL method (BS-300 Chemistry analyzer).

-Low density lipid cholesterol calculated using the formula LDL-C=TC – (TG/2.2 + HDL-C).

-Very low density lipid cholesterol calculated by multiplying TG by 0.45.

An ultrasound-guided renal biopsy for histopathological staging according to the World Health Organization classification (WHO) of lupus nephritis.

We observed a worse lipid profile in SLE patients than in controls. Hypercholesterolemia (TC > 200 mg/dl) was presnt in 63.3% of our SLE patients. Our results detected a positive highly significant correlation between TG,VLDL and TC/HDL-C ($p=0.000$) and SLEDAI score and a non-significant correlation between TC and SLEDAI score. There were a negative correlation of high statistical significance between both HDL-C & HDL/LDL ratio and SLEDAI score.

The different lipid profile variables showed a statistically significant correlations with decreased C3 and C4.

Comparison of plasma lipid concentrations between SLE patients with and without lupus nephritis revealed a statistically significant difference for VLDL, TG ($p< 0.001$), TC/HDL-C & HDL-C/LDL-C ratio ($p<0.05$) and no statistically significant difference for TC, HDL-C, LDL,C ($p>0.05$).

Lipid profile variables were significantly correlated with serum creatinine, serum urea and twenty four hour urinary protein.

# In conclusion,

This study confirm the association of abnormal lipid profile parameters with disease activity and lupus nephrits.

# Recommendations,

***From the results obtained from this study we can recommend that:-***

- Serial measurement of lipid profile variables in SLE patients is very important for early management of dyslipidemia.
- Initiation of early treatment of dyslipidemic SLE patients with dietry modifications and lipid lowering medications is of high importance.