SUMMARY

This study was carried out in the Clinical Pathology and Internal Medicine Departments, Faculty of Medicine, Banha University Hospitals. The study included 80 subjects classified into 3 groups.

Group I: It included 20 apparently healthy subjects.

Group II: It included 30 insulin- dependent diabetic patients. They were sub-classified into 18 NON LEAD and 12 LEAD.

Group III: It included 30 non-insulin dependent diabetic patients. They were sub-classified into 18 NON LEAD and 12 lead.

All patients and control subjects were subjected to the followings:

1- Full history taking.

2- Complete clinical examination.

3- Complete blood count.

4- Prothrombin time (PT) and partial thromboplastin (PTT).

5- C-reactive protein (CRP).

6- Liver and kidney functions tests, fasting and two hours post prandial serum glucose.

7- Lipid profile (total cholesterol, triglyceride, HDL-cholesterol and LDL).

8- Specific laboratory investigations:

* Glycosylated hemoglobin (HbA1c).
* Assay of fibrinogen.
* Assay of tissue plasminogen activator (t-PA).

The results revealed the following:

There was no statistical significant difference between all studied groups as regards duration of clinical diabetes.

There was a statistical significant increase in BMI in group III compared to group I and group II but no significant difference was found between group II and group I.

Tissue plasminogen activator (t-PA) was statistically significant increased in group II compared to group I but statistically significant decreased in group III compared to group I and group II.

There was a statistical significant increase in HbA1c and fibrinogen in group II and group III compared to group I with no statistical significant difference was found between group II and group III.

There was a statistical significant increase in CRP, Cholesterol, Triglyceide and LDL- cholesterol in group II and group III compared to group I. They were also statistically significant increased in group III compared to group II.

The level of HDL-cholesterol was statistically significant lower in group II and group III compared to group I and statistically significant lower in group III compared to group II.

There was no statistical significant difference between NON LEAD and LEAD in group II as regards t-PA but in the group III, t-PA was statistically significant higher in LEAD compared to NON LEAD.

There was statistically positive correlation between t-PA and diabetic duration) in total, NON LEAD and LEAD group II and III.

There was a statistically positive correlation between t-PA and HbA1c in total group III.

CONCLUSION

In conclusion, the results of the present study in keeping with evidence from literature revealed that:

- Tissue plasminogen activator (t-PA) is present in the early stage after vascular damage so, measurement of t-PA is a reflection for increase activity of the fibrinolytic system.
- Tissue plasminogen activator (t-PA) potentially be useful as an early predictor marker for the measure of activated coagulation in diabetic patients with asymptomatic lower extremity arterial disease (LEAD).
- In our study there was no significant difference between NON LEAD and LEAD in type I DM (group II) in levels of t-PA. Otherwise, in type II DM (group III) levels of t-PA were significantly increase in LEAD compared to NON LEAD. These results were explained by a compensatory mechanism to sustain circulation that present in the early progression of the disease when the endothelium still a major source of t-PA so, the t-PA secretion increase in the early stage of vascular insufficient in type II diabetes. Although this mechanism is present in type I DM but the difference in the results can be explained by the hypothesis that provide the deterioration of this mechanisms by the long duration.