SUMMARY AND CONCLUSION

The characteristic feature of diabetic microangiopathy is thickening of the capillary basement membrane which is composed of laminin, heparan sulfate proteoglycan, type IV collagen, fibronectin, entactin (nidogen). Type III collagen is also found to be widely distributed in blood vessels.

The aim of the present work was to monitor serum levels of laminin and procollagen III, as well as plasma level of fibronectin as useful indicators of diabetic retinopathy.

Sixty diabetic patients (30 IDDM & 30 NIDDM), in addition to twenty control healthy persons were included in the present study. Each group of the diabetics, i.e. IDDM & NIDDM was classified into two equal subgroups. The first subgroup had normal fundus (15 IDDM & 15 NIDDM) and the second one had diabetic retinopathy (15 IDDM & 15 NIDDM).

Each patient and healthy control was subjected to the following:

- Full history taking.
- Fundus examination.
- Laboratory investigations including
  - Fasting and post-prandial blood glucose.
  - Serum fructosamine.
  - Serum urea.
  - Serum creatinine.
  - Serum procollagen III.

- Serum laminin.
- Plasma fibronectin.

The results of the present study showed that:

- Serum laminin was significantly higher in diabetics than in normal controls.
  - A higher but non significant elevation of serum laminin was found in NIDDM patients with retinopathy when compared with those without retinopathy.
  - No significant difference was found in Serum laminin in IDDM patients with normal fundus when compared with those with diabetic retinopathy.
- Serum PIIINP was higher in both IDDM & NIDDM retinopathic diabetics than their corresponding non-retinopathics. The difference in the NIDDM group was significant while it was not significant in IDDM group.
- A significant difference was revealed in serum PIIINP level between diabetics with severe grade of retinopathy and those with mild and moderate retinopathy (as a single group).
- Plasma FN levels were significantly higher in diabetics as compared to normal controls. However, no significant differences were found in plasma FN levels between either retinopathic and non retinopathic diabetics or between diabetics with and those without proteinuria.
- Significant correlations was revealed between the followings:
  - Serum PIIINP & serum laminin.
  - Serum PIIINP & fundus.

- Serum PIIINP & duration of diabetes mellitus.
- Serum PIIINP & proteinuria.
- Serum laminin & proteinuria.

As a conclusion, both serum PIIINP and serum laminin may be of value in monitoring the development of diabetic retinopathy but further studies are suggested to apply these findings on patients with diabetic nephropathy and neuropathy.