MATERIALS AND METHODS
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Selection of patients and control

After the ethical clearance the Study will be conducted in the Department of Biochemistry with collaboration of Dept. of General Medicine and Microbiology at the Central Laboratory of Rama medical college & research centre, Kanpur.

Sample size:

\[ n^2 = \frac{2 (p) (1 - p) (z\beta + z \frac{\alpha}{2})^2}{d^2} \]

Formula;

- 200 patients of 30 years to 75 years suffering from type 2 Diabetes Mellitus without complication and equal number of controls
- 50 individuals each with complications such as Retinopathy, Nephropathy and Neuropathy and same number of controls
- 50 patients suffering from Gestational Diabetes Mellitus and same number of controls

Patient and Control selection

Patients of any age group suffering from Diabetes Mellitus will be diagnosed with the American diabetes association criteria for Diabetes Mellitus. Equal number of normal healthy subjects, age and sex matched with the patients will be selected as controls.
Inclusion criteria:

Patients suffering from

1. Type 2 Diabetes Mellitus
2. Gestational Diabetes Mellitus
3. Diabetic Nephropathy
4. Diabetic Retinopathy
5. Diabetic Neuropathy.

Exclusion criteria:

Patients suffering from

1. Malignancies
2. HTN
3. Cardiovascular disease

Sample processing:

- Fasting blood sample will be collected from patients and control for the estimation of FBs and post-prandial blood sample will be collected after 2 hours of meal for PPBS estimation.

- For the test of different parameters 5ml of fasting venous blood will be collected under aseptic condition in a plain vacutainer from each patient and healthy subjects by following the standard guidelines. The sample will be transported to the biochemistry lab for the processing or if not possible will be stored at -80ºc.
Estimation of Tests:

- Serum and urine Adropin will be estimated by ELISA
- Blood sugar will be estimated by GOD- POD method
- Serum total cholesterol will be determined by CHOD- POD method
- Serum HDL will be estimate by CHOD- POD method
- Serum LDL will be estimated by Friedwald equation
- Serum VLDL will be estimate by calculated manually
- Serum triglyceride will be estimate by enzymatic method
- Serum creatinine will be estimated by Jaffe’s method
- Serum urea will be estimated by Diacetylmonoxime method
- Serum albumin will be estimate by Bromocresol green dye binding method
- Serum insulin will be estimated by ELISA
- Microalbumin will be estimated by by Erba kit