Discussion

Present study was carried out on 30 patients of LB Type-2 Diabetes mellitus (BMI < 18.5) in the Department of Medicine M L B College Jhansi. These patients were attending either general medicine OPD, Diabetic clinic OPD, Gynaecology and Obstetrics OPD, Tuberculosis and chest OPD, and patients admitted in wards. Out of these 30 patients, 22 (72.6 percent) were male and 8 (27.4 percent) were female. The mean BMI of patients were 17.19 ± 1.03. The clinical anthropometric biochemical and hormonal value were consequent to evaluation at a point of time. This study was planned to meticulously follow up a set of typical patient with LB Type-2 Diabetes mellitus over a period of six consecutive months.

In the past poverty and malnutrition have been vicariously linked to explain the variable difference observed in the diabetics in India as compared to west. Unfortunately, the review as far as adult onset diabetic were concerned were often presumptive rather than factual. In the present study, it was observed that more than 76 percent of patients (Table VI) with LB Type-2 diabetes mellitus were from middle and upper socioeconomic status and more than 66 percent were literate (Table VII). In India, middle and upper class constitute about 50 percent of the population and literacy about 55 percent and these type of LB Type-2 diabetes mellitus was probably the real representation of diabetes mellitus prevalent in such society.
Thus this LB Type-2 diabetes mellitus constitute a distinct entity in themselves.

In present study LB Type-2 diabetes mellitus patients were similar to other Type-2 diabetes mellitus in context of male female ratio (Table II p value > 0.5 normal body weight Type-2 diabetes mellitus and > 0.8 over body weight Type-2 diabetes mellitus) 3.1, have age of onset 47.7 ± 8.82 (Table III) as compared to normal body weight Type-2 diabetes mellitus 47 ± 7.4 p value > 0.9 and overweight Type-2 diabetes mellitus 44.75 ± 9.37 p value < 0.001 (younger age of onset) Total duration of illness was 4.8 ± 3.14 (Table IV) as compared to normal body weight Type-2 Diabetes Mellitus 3.8 ± 2.57 p value < 0.05 (lesser duration) and over body weight Type-2 Diabetes Mellitus 4.5 ± 8.14 p value > 0.5 Urban and rural residence ratio was 1:1 p value for both normal and over weight Type-2 Diabetes Mellitus >0.4 Socioeconomic status (Table VI), Literacy status (Table VII) p value for normal body weight Type-2 Diabetes Mellitus > 0.9 and over body weight Type-2 Diabetes Mellitus > 0.1, and occupation and habit wise there was similarity with other Type-2 Diabetes Mellitus, but having gross dissimilarity in clinical, anthropometric, biochemical and treatment wise

In present study family history of Diabetes Mellitus could be ascertained in 30 percent (Table X), much higher than normal body weight Type-2 Diabetes Mellitus 12 percent, p value < 0.05 and over body weight Type-2 Diabetes Mellitus 5 percent, p value < 0.05 Higher incidence of Diabetes Mellitus was also noted in siblings 20 percent Similar family history was also observed by A K Baliar Sinha and S Das in Cuttack 16.6 percent, Samar Banerjee and
Uttam K Paul in Calcutta 20 percent, Bk Sahy in Hyderabad 30 percent and Vijay Vishwanathan in Chennai 42 percent Yet they testify that LB Type-2 Diabetes Mellitus runs in families and not a variant of Type-1 Diabetes Mellitus or MRDM

In present study most of the LB Type-2 Diabetes Mellitus presented with classic presentation (Table XI) 70 percent which was unlike to normal weight Type-2 Diabetes Mellitus 96 percent with p value < 0.02 and over weight Type-2 Diabetes Mellitus 95 percent with p value < 0.05 These LB Type-2 Diabetes Mellitus patients have frequent complain of paraesthesia and numbness 36.7 percent weakness 50 percent and infection 13 percent at time of diagnostic of diabetes These presenting complain at diagnosis was similarly observed by Anant Nigam in Jaipur who observed classic presentation in 29 percent weakness and fatigue 23.9 percent, paraesthesia 19.5 percent and visual disturbances in 13.1 percent

The anthropometric data revealed that they were not only lean but also had very low subcutaneous fat, this habit is typical of such LB Type-2 Diabetes Mellitus Central adiposity with altered waist, waist hip ratio has been claimed to sin qua non of Type-2 Diabetes Mellitus, but these LB Type-2 Diabetes Mellitus had much lower waist 77.7 ± 3.8 cm, than normal body weight Type-2 Diabetes Mellitus 86.6 ± 4.2 cm, p value < 0.001 and over weight Type-2 Diabetes Mellitus 100.2 ± 13.3 cm p value < 0.001 (Table XII) But there waist hip ratio 0.91 ± 0.04 were similar to normal body weight Type-2 Diabetes Mellitus 0.95 ± 0.04, p value > 0.3 and over body weight Type-2 Diabetes Mellitus 0.98 ± 0.07 p value > 0.2
In present study hypertension was present in 33 percent of LB Type-2 Diabetes Mellitus (Table XIV) much lower than normal body weight Type-2 Diabetes Mellitus 56 percent p value < 0.05 and over body weight Diabetes Mellitus 65 percent p value < 0.02. Coronary artery disease also lower to 13.3 percent than normal body weight Type-2 Diabetes Mellitus 24 percent p value > 0.03 and over weight Type-2 Diabetes Mellitus 30 percent p value > 0.1. In other study hypertension was much lower A K Balar Sinha and S Das in Cuttack (Hypertension 4.4 percent and CAD 16 percent), Anant Nigam in Jaipur (Hypertension 8.9 percent and CAD 10.2 percent), and K Kanan in Madurai (Hypertension 18 percent and CAD 4 percent).

In this study of LB Type-2 Diabetes Mellitus patients with peripheral neuropathy were 50 percent much higher than normal body weight Type-2 Diabetes Mellitus 20 percent p value < 0.02 and over weight Type-2 Diabetes Mellitus 15 percent p value < 0.01 (Table XVI). Similar observations were noted by A K Balar Sinha and S Das in Cuttack 49 percent, Anant Nigam in Jaipur 19.8 percent, Vijay Vishwanathan in Chennai 31.9 percent.

The present study also reveals higher incidence of Impotency 36.3 percent (in LB Type-2 Diabetes Mellitus) and Autonomic neuropathy 24.4 percent in LB Type-2 Diabetes Mellitus than normal body weight Type-2 Diabetes Mellitus p value < 0.05 and over weight Type-2 Diabetes Mellitus p value < 0.05. Thus in LB Type-2 Diabetes Mellitus patients Impotency was much higher (Table XVI).

In the present study prevalence of Pulmonary Tuberculosis 16.6 percent and Skin infections 23.3 percent, were higher than normal body weight Type-2 Diabetes Mellitus (Pulmonary
Tuberculosis 8 percent and Skin infections 4 percent) and overweight Type-2 Diabetes Mellitus (Pulmonary Tuberculosis 5 percent and none Skin infections) (Table XVII) Similar observations were noted by A K Baliar Sinha and S Das from Cuttack (Pulmonary Tuberculosis 7 7 percent and Skin infections 18 7 percent) and Anant Nigam in Jaipur (Pulmonary Tuberculosis 14 9 percent)

In this study eye complications was higher in LB Type-2 Diabetes Mellitus, (Cataract 16 7 percent and Retinopathy 46 7 percent) than normal body weight Type-2 Diabetes Mellitus (Cataract 8 percent and Retinopathy 24 percent) and over body weight Type-2 Diabetes Mellitus (Cataract 5 percent and Retinopathy 30 percent)

In present study of LB Type-2 Diabetes Mellitus patients present with overt albumen urea was 53 3 percent (Table XXII) than normal body weight Type-2 diabetes mellitus 40 percent p value > 0 4 and over body weight Type-2 Diabetes Mellitus 50 percent p value > 0 8 Thus no statistical significant difference was observed

In this study of LB Type-2 Diabetes Mellitus has much higher albumin urea than other study probably better method used for detection of micro albumin urea

In present study LB Type-2 Diabetes Mellitus patient had HbA1c 8 6 ± 2 23 (blood sugar moderately controlled) than normal body weight Type-2 Diabetes Mellitus 7 5 ± 1 09 p value > 0 7 and over body weight Type-2 Diabetes Mellitus 7 15 ± 2 94 p value > 0 7 (Table XVIII) Inspite of moderate hyper glycemia, none of LB Type-2 Diabetes Mellitus patient goes in ketoacidosis, this show that they have insulin reserve, which prevent ketoacidosis similar to other
Diabetes Mellitus Similar observations were noted by A K Balia Sinha and S Das in Cuttack, and Anant Nigam in Jaipur.

This study also revealed that LB Type-2 Diabetes Mellitus have fasting Serum Insulin less than normal in 56 percent and C-peptide was also lower in 56.7 percent, which was usually normal in normal body weight Type-2 Diabetes Mellitus in 72 percent, and over body weight Type-2 Diabetes Mellitus 60 percent.

This study of LB Type-2 Diabetes Mellitus 3 patients (10 percent), show anti-insulin antibody (AIA) which was not detected in any other group patients.

In this study total Serum cholesterol in LB Type-2 Diabetes Mellitus 156.97 mg percent ± 53.8 comparison to normal body weight Type-2 Diabetes Mellitus, 168.96 mg percent ± 31.4 and over body weight Type-2 Diabetes Mellitus 172.50 mg percent ± 79.9 (Table XXIII) Hypertriglyceridemia (defined as > 150 mg percent, Table XXVII) in 60 percent LB Type-2 Diabetes Mellitus (171.7 mg percent ± 60.41) as compared to normal body weight Type-2 68 percent (201.96 mg percent ± 97.83) and over body weight Type-2 Diabetes Mellitus 55 percent (208.69 mg percent ± 140).

Average value of HDL cholesterol was 38.27 mg percent ± 14.01 as compared to normal body weight Type-2 Diabetes Mellitus 45.2 mg percent ± 13.19 and over body weight 36.7 mg percent ± 12.82 In LB Type-2 LDL cholesterol (88.4 mg percent ± 34.45) and VLDL cholesterol (40.1 mg percent ± 24.15) were lower as compared to normal body weight and over body weight.
Similar observations were noted by A K Baria Sinha and S Das in Cuttack, Samar Banerjee and Uttam K Paul in Calcutta and Anant Nigam in Jaipur.

In present study most of the patients of LB Type-2 Diabetes Mellitus have well controlled blood sugar by oral hyperglycemic agent, in 76.7 percent and only 23.3 percent were on insulin (Table XXVIII), while none in normal body weight and over body weight Type-2 Diabetes Mellitus were on insulin. Same observations were noted by A K Baria Sinha and S Das in Cuttack (28 percent patients on insulin), B K Sahy in Hyderabad (12 percent patients on insulin) and K Kanan in Madurai.