Comparison of Dyslipidemia in Pre-diabetes and Diabetes-A Pilot study

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Dear Sir,

We read with interest the original article “Lipid Profile in Prediabetes” by Suboth Kansal and TK Kamble,¹ March 2016, Vol 64, issue of journal of the association of physician of India. We did a similar study in which patterns of lipid profile in prediabetic and diabetics were compared. Total 60 cases were taken (30 Pre-diabetic and 30 Diabetic). Pre-Diabetics and Diabetics who met the criteria (for pre-diabetes FBS >100 to 125 mg/dl and PPBS >140 to 199 mg/dl, HbA1c 5.7 to 6.4% and for diabetes, FBS ≥126 mg/dl and PPBS ≥200 mg/dl, HbA1c ≥6.5%). The fasting total cholesterol and triglyceride level of two groups were compared. The mean value of total cholesterol in Prediabetics was 170.57 ± 26.18 mg/dl and diabetics was 171.23 ± 33.79 mg/dl, which was statistically not significant (p=0.746). While the fasting value of triglyceride in pre-diabetics was 131.1 ± 29.36 mg/dl and in diabetics 164.95 ± 73.0 mg/dl which was statistically significant (p<0.01). Thus we concluded that as pre-diabetes progress to diabetes, the fasting triglyceride level rises significantly whereas total cholesterol is not much affected.

In study done by Suboth Kansal and TK Kamble,¹ total cholesterol values was 184.75 ± 46.02 mg/dl, and triglyceride values was 139.5 ± 47.24 mg/dl in prediabetics, while in our prediabetics both total cholesterol and triglyceride values were much lower, i.e. total cholesterol 170.57 ± 26.18 mg/dl and triglyceride-131.1 ± 29.36 mg/dl. This may be due to 1-Difference in selection criteria for Prediabetes used by Suboth Kansal and TK Kamble is WHO criteria² and we have used ADA³ criteria. 2-Regional differences in cultural and eating habits between Mumbai and Delhi may be other contributing factor.

In our study total cholesterol values (total cholesterol 170.57 ± 26.18 mg/dl) are similar to study done by Williams et al,⁴ from National health and nutritional examination survey done in 1999-2000(NHANES) in which mean Total cholesterol was 174.2 mg/dl in prediabetics.

When we look into the results of both studies together, we can infer that as the blood sugar level progress from normal to prediabetes and diabetes, the level of lipids also show rise in their value, specially triglyceride.