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Obesity measures, metabolic profiles and dietary fatty acids in lean and obese postmenopausal diabetic Asian Indian women

Arnab Ghosh

Biomedical Research Laboratory, Department of Anthropology, Visva Bharati University, Santiniketan, West Bengal, India

With 5 tables

Summary: The present investigation was aimed to compare anthropometric, metabolic and dietary fatty acids profiles in lean and obese postmenopausal diabetic Asian Indian women. A total of 125 postmenopausal Asian Indian women (Group I: lean postmenopausal control, n = 50; Group II: lean postmenopausal diabetic, n = 40 and Group III: obese postmenopausal diabetic, n = 35) aged 40 years and above were studied. Anthropometric [height, weight, waist (WC) and hip circumference] metabolic [total cholesterol (TC), triglyceride (TG), high (HDL), low density lipoprotein (LDL) and fasting plasma glucose (FPG)] and dietary profiles were collected from each participant. Body mass index (BMI), waist-hip ratio (WHR) and conicity index (CI) were subsequently computed. Obesity was defined as women having a BMI $\geq$ 25 kg/m^2. An open-ended 24 h food recall schedule was used to collect nutrient information from each participant. Daily intake of nutrients including saturated (SFA), monounsaturated (MUFA) and polyunsaturated fatty acids (PUFA) were also estimated on weekly and monthly basis. Group I had significantly lower mean than both Group II and Group III for WC, WHR, CI, TC, TG, LDL, FPG and total carbohydrates. On the other hand, Group I had significantly greater mean than both Group II and Group III for UFA/SFA, MUFA/SFA and PUFA/SFA. Discriminant analysis had revealed that overall 88% of all cases were correctly (positively) classified in three groups using fatty acids and their ratios. It seems reasonable to argue that while dealing with postmenopausal diabetic women, clinicians should consider obesity measures, lipids and dietary fatty acids simultaneously to better comprehend clinical assessments and risk stratification.

Key words: Obesity, Dietary fatty acids, Diabetes, Menopause, Asian Indians.

Introduction

Coronary heart disease (CHD) remains the major cause of mortality in women after menopause (Kanaya et al. 2005). Menopause, regardless of age at onset, is associated with a marked increase in CHD risk (Andre et al. 1999, Vogelvang et al. 2006). Although hormone replacement therapy improves some of these risk factors, no overall cardiovascular benefit has been noted with this therapy (Khoo & Perera 2005). An early natural menopause poses an excess risk of CHD as well. The decrease in risk in women who take estrogen replacement is further evidence that the excess risk of CHD in women with a bilateral oophorectomy is a consequence of estrogen deficien-

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