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Influence of Lipid profile on the Risk of Carcinoma Breast in North Indian women

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Abstract

Background : Cancer and cardiovascular diseases are leading causes of death in developed countries and it is expected by 2030, these will be most important determinants of death in developing countries. Deranged lipid profile is responsible for CVD but effect of dyslipidemia on breast cancer is unclear. We aimed to study influence of deranged lipid profile on breast cancer.

Objective: To study impact of deranged lipid profile on risk of breast cancer

Material and Methods: A case control study was conducted in the department of Biochemistry and Surgery, VMMC & Safdarjung Hospital New Delhi. 50 Histopathologically confirmed cases of breast cancer females and 50 healthy controls were taken. Blood sampling of both cases and controls was done and the sera of all patients were analyzed for lipid profile (TG, TC, HDL, LDL) using Autoanalyzer Beckman Coulter AU680. Results were analyzed with calculation of P value and standard deviation and mean and relative risk for each variable.

Results: Lipid profile of postmenopausal and premenopausal cases and controls were identified and found that level of TG (184 ± 43.06), TC (293 ± 73.94) & LDL (187 ± 12.63) in cases was significantly higher in postmenopausal women than TG (144 ± 28), TC (161 ± 39) and LDL (118 ± 39) in control (p value < 0.0001). HDL value (p value < 0.005) is lower in postmenopausal females (30 ± 5.57) than premenopausal females (54 ± 10.25) in cases and in postmenopausal (44 ± 11) & premenopausal females (44 ± 10.58) controls as well. Risk of lipid parameters towards breast cancer has been found .TG [RR-1.78 (0.97-3.27)], TC [RR- 1.82 (0.45-7.34)], HDL [2.76(0.55-13.77)], LDL [2.8(0.56-13.95)].

Keywords: CVD, carcinoma breast, high-density lipoprotein cholesterol (HDL-C), dyslipidemia, postmenopausal.

Abbreviations: Triglycerides (TG), high-density lipoprotein cholesterol (HDL-C), Cardiovascular diseases (CVD), Total cholesterol (TC), low density lipoprotein cholesterol (LDL-C)

Funding and conflict of interest: None

Ethical approval:

Written and informed consent was taken from cases and controls. Research protocol and procedures were approved by the standards of the Helsinki Declaration 2013 and Institutional ethical committee of VMMC and Safdarjung Hospital New Delhi (IEC/VMMC/SJH/Thesis/2019-10/86) Time of data collection : November 2019 to November 2020.