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ORIGINAL RESEARCH COMMUNICATION

Dietary glycemic index, glycemic load, and the risk of breast cancer in an Italian prospective cohort study[1,2,3]

Sabina Sieri, Valeria Pala, Furio Brighenti, Nicoletta Pellegrini, Paola Muti, Andrea Micheli, Alberto Evangelista, Sara Grioni, Paolo Contiero, Franco Berrino and Vittorio Krogh

[1] From the Nutritional Epidemiology Unit (SS, VP, AE, SG, and VK), the Descriptive Epidemiology and Health Planning Unit (AM), the Cancer Registry Division (PC), and the Etiological and Preventive Epidemiology Unit (FB), National Cancer Institute, Milan, Italy; the Department of Public Health, University of Parma, Parma, Italy (FB and NP); and the Epidemiology and Prevention Unit, Istituto Regina Elena, Rome, Italy (PM)

Background: Interest in the roles of glycemic index (GI) and glycemic load (GL) in breast cancer etiology has been stimulated by indications that disease risk is linked to insulinemia, sex hormone bioavailability, and insulin-like growth factor 1.

Objective: We aimed to determine whether GI and GL were associated with the risk of breast cancer in a cohort of Italian women volunteers from Northern Italy, who enrolled between 1987–1992 in the Hormones and Diet in the Etiology of Breast Tumors Study (ORDET Study).

Design: Volunteers completed a semiquantitative food-frequency questionnaire, and anthropometric and lifestyle data were collected. Dietary GI and GL in relation to breast cancer risk were examined in 8926 cohort women, including 289 with breast cancer identified after a mean follow-up of 11.5 y.

Results: The relative risk (RR) of breast cancer in the highest (versus lowest) quintiles of GI and GL was 1.57 (95% CI: 1.04, 2.36; *P* for trend = 0.040) and 2.53 (95% CI: 1.54, 4.16; *P* for trend = 0.001), respectively. Total carbohydrate intake was not associated with greater breast cancer risk, but high carbohydrate from high-GI foods was. When women were categorized by baseline menopausal status and body mass index (BMI; in kg/m^2), the increased risk of dietary GL was confined to those who were premenopausal (RR = 3.89; 95% CI: 1.81, 8.34) and who had normal BMI (ie, <25) (RR = 5.79; 95% CI: 2.60, 12.90) (*P* for trend = 0.001 for both).

Conclusions: A high-GL diet may increase the risk of breast cancer in Italian women. The effect is particularly evident in premenopausal women and those with BMI < 25.

Key Words: Glycemic index • glycemic load • breast cancer risk • women

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