ICCN Poster Presentations

Nutrition and cancer

Inverse relationship between body mass index and premenopausal breast cancer risk in Malaysian women

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Human breast cancer is usually categorized as either premenopausal or postmenopausal. The epidemiological evidence for the role of anthropometric factors, specifically body mass index, in the etiology of breast cancer has become clearer and stronger particularly for populations in developed countries. The aim of our study was to examine the relationship between body mass index (BMI) and waist-hip ratio (WHR) with breast cancer risk in pre and post menopausal Malaysian women using a case-control study design. Eighty-one women newly diagnosed with breast cancer at the Hospital Kuala Lumpur and University Malaya Medical Centre were matched for age ($\pm$5 years), ethnic group and area of residence (rural/urban) with 81 community control subjects. BMI and WHR were determined using established methods. Obesity and abdominal obesity were identified using the WHO (1995) guidelines. Data were also collected on sociodemographic and lifestyle factors, dietary intake and serum lipid profile. Multiple logistic regression analysis was carried out to estimate odds ratios (ORs) and 95% confidence intervals (95% CI). The study groups comprised Malays (44%), Chinese (40%) and Indians 16%. Nearly 81% of the case subjects were premenopausal. The mean age of case and control subjects was 46.6 years and 47.6 years respectively. The mean BMI of cases was lower, but not significantly, (24.52 ± 4.86) lower than controls (25.37 ± 4.55) at the time of diagnosis. A non-significant difference was observed for WHR between study groups. After adjustment for potential confounders, the model showed that BMI had a significant and inverse relationship for breast cancer risk (OR= 0.834, CI, 0.736-0.946) in pre-menopausal women only. No clear association with breast cancer risk was observed for WHR. Our results endorse previous reports of studies in European and other populations that a lower BMI is associated with increased risk for breast cancer among pre-menopausal women.

Folate status of Thai women cervical dysplasia

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The study was carried out in Thai women that were identified from the National Cancer Institute and Vajira Hospital in Bangkok, and Chonburi Cancer Center in Chonburi Province. Fasting blood samples were collected from 44 women with low-grade cervical neoplasia (CIN I), 70 high-grade cervical neoplasia (CIN II, III and carcinoma *in situ*) and 95 women with normal cytology as the control group for serum and red cell folate analysis and serum homocysteine determination. Cervical smears were obtained for histological diagnosis and colposcopy-directed biopsy investigation was used as confirmation. Polymerase chain reaction (PCR) was used to define the presence or absence of genital HPV DNA. The socioeconomic background, gynecologic history, and other possible risk factors were also gathered by personal interview and the daily intakes of folate were investigated by 24-hour recall, as well as the food habits of the subjects by food frequency questionnaire. The low folate statuses of these women showed a strong association with cervical dysplasia. The serum folate was markedly lower than the control group in both low-grade ($p<0.01$) and high-grade cervical neoplasia cases ($p<0.01$). Moreover, using logistic regression, the Odds ratio for low-grade cervical neoplasia with low serum folate level (<19.82 nmol/L) was 6.13, while that of the high-grade group with the same folate level was 5.57. The investigation of the relationship between abnormality of the cervical cells and red cell folate and serum homocysteine produced similar results. The outcome of folate intake analysis and the food habits of these women were related to the folate status of the blood. This finding supported the contention that the folate deficiency status of the women in this study increased the risk of cervical change.