



Effect of total plasma homocysteine on cervical dysplasia risk.

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We investigated whether total plasma homocysteine (tHcy) is associated with risk for cervical intraepithelial neoplasia (CIN). tHcy was evaluated, along with numerous risk factors for CIN and biochemical indexes of nutrients, in a previously reported study population of 294 subjects with CIN and 170 female controls without CIN. tHcy was significantly higher in cases than in controls (9.1 vs. 8.3 $\mu\text{mol/l}$, $p = 0.002$). Human papillomavirus type 16 infection [odds ratio (OR) = 6.7], oral contraceptive use (OR = 6.0), parity (OR = 2.2), and cigarette smoking (OR = 1.9) were significantly associated with CIN after adjustment for each other and for age, number of sexual partners, and plasma tHcy, folate, iron, and zinc. Human papillomavirus type 16 positivity increased risk for CIN more when tHcy was $> 9.12 \mu\text{mol/l}$ (OR = 4.7) than when it was $\leq 9.12 \mu\text{mol/l}$ (OR = 3.0). Cigarette use increased risk for CIN when tHcy was $> 9.12 \mu\text{mol/l}$ (OR = 3.9), but not when tHcy was $\leq 9.12 \mu\text{mol/l}$ (OR = 1.5). Parity increased risk for CIN more when tHcy was $> 9.12 \mu\text{mol/l}$ (OR = 4.0) than when tHcy was $\leq 9.12 \mu\text{mol/l}$ (OR = 2.0). These results suggest that elevated plasma tHcy is a risk factor for cervical dysplasia and that it enhances the effects of other risk factors. It is unknown whether tHcy is serving as a marker of folate deficiency or is acting through other mechanisms.

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