A potential cancer-causing compound called acrylamide forms as a result of the chemical changes that occur in foods when they're baked, fried, or roasted.

A prospective study of dietary acrylamide intake and the risk of endometrial, ovarian, and breast cancer

J.G. Hogervorst, L.J. Schouten, E.J. Konings, R.A. Goldbohm, P.A. van den Brandt. Department of Epidemiology, Maastricht University, the Netherlands.


BACKGROUND: Acrylamide, a probable human carcinogen, was detected in various heat-treated carbohydrate-rich foods in 2002. The few epidemiologic studies done thus far have not shown a relationship with cancer. Our aim was to investigate the association between acrylamide intake and endometrial, ovarian, and breast cancer risk.

METHODS: The Netherlands Cohort Study on diet and cancer includes 62,573 women, aged 55-69 years. At baseline (1986), a random subcohort of 2,589 women was selected using a case cohort analysis approach for analysis. The acrylamide intake of Subcohort members and cases was assessed with a food frequency questionnaire and was based on chemical analysis of all relevant Dutch foods. Subgroup analyses were done for never-smokers to eliminate the influence of smoking, an important source of acrylamide.

RESULTS: After 11.3 years of follow-up, 327, 300, and 1,835 cases of endometrial, ovarian, and breast cancer, respectively, were documented. Compared with the lowest quintile of acrylamide intake (mean intake, 8.9 mug/day), multivariable adjusted hazard rate ratios (HR) for endometrial, ovarian, and breast cancer in the highest quintile.

CONCLUSIONS: We observed increased risks of postmenopausal endometrial and ovarian cancer with increasing dietary acrylamide intake, particularly among never-smokers. Risk of breast cancer was not associated with acrylamide intake.

*From PubMed (Pubmed.gov), a service of the U.S. Library of Medicine and U.S. National Institutes of Health