Titel des Beitrags:
AURKA F31I polymorphism and breast cancer risk in BRCA1 and BRCA2 mutation carriers: a consortium of investigators of modifiers of BRCA1/2 study.

Abstract:
The AURKA oncogene is associated with abnormal chromosome segregation and aneuploidy and predisposition to cancer. Amplification of AURKA has been detected at higher frequency in tumors from BRCA1 and BRCA2 mutation carriers than in sporadic breast tumors, suggesting that overexpression of AURKA and inactivation of BRCA1 and BRCA2 cooperate during tumor development and progression. The F31I polymorphism in AURKA has
been associated with breast cancer risk in the homozygous state in prior studies. We evaluated
whether the AURKA F31I polymorphism modifies breast cancer risk in BRCA1 and BRCA2 mutation
carriers from the Consortium of Investigators of Modifiers of BRCA1/2. Consortium of Investigators of
Modifiers of BRCA1/2 was established to provide sufficient statistical power through increased
numbers of mutation carriers to identify polymorphisms that act as modifiers of cancer risk and can
refine breast cancer risk estimates in BRCA1 and BRCA2 mutation carriers. A total of 4,935 BRCA1
and 2,241 BRCA2 mutation carriers and 11 individuals carrying both BRCA1 and BRCA2 mutations
was genotyped for F31I. Overall, homozygosity for the 31I allele was not significantly associated with
breast cancer risk in BRCA1 and BRCA2 carriers combined [hazard ratio (HR), 0.91; 95% confidence
interval (95% CI), 0.77-1.06]. Similarly, no significant association was seen in BRCA1 (HR, 0.90; 95%
CI, 0.75-1.08) or BRCA2 carriers (HR, 0.93; 95% CI, 0.67-1.29) or when assessing the modifying
effects of either bilateral prophylactic oophorectomy or menopausal status of BRCA1 and BRCA2
carriers. In summary, the F31I polymorphism in AURKA is not associated with a modified risk of
breast cancer in BRCA1 and BRCA2 carriers.