Titel des Beitrags:
The TP53 Arg72Pro and MDM2 309G>T polymorphisms are not associated with breast cancer risk in BRCA1 and BRCA2 mutation carriers.

Abstract:
BACKGROUND: The TP53 pathway, in which TP53 and its negative regulator MDM2 are the central elements, has an important role in carcinogenesis, particularly in BRCA1- and BRCA2-mediated carcinogenesis. A single nucleotide polymorphism (SNP) in the promoter region of MDM2 (309T>G, rs2279744) and a coding SNP of TP53 (Arg72Pro, rs1042522) have been shown to be of functional significance. METHODS: To investigate whether these SNPs...
modify breast cancer risk for BRCA1 and BRCA2 mutation carriers, we pooled genotype data on the TP53 Arg72Pro SNP in 7011 mutation carriers and on the MDM2 309T>G SNP in 2222 mutation carriers from the Consortium of Investigators of Modifiers of BRCA1/2 (CIMBA). Data were analysed using a Cox proportional hazards model within a retrospective likelihood framework. RESULTS: No association was found between these SNPs and breast cancer risk for BRCA1 (TP53: per-allele hazard ratio (HR)=1.01, 95% confidence interval (CI): 0.93-1.10, P(trend)=0.77; MDM2: HR=0.96, 95%CI: 0.84-1.09, P(trend)=0.54) or for BRCA2 mutation carriers (TP53: HR=0.99, 95%CI: 0.87-1.12, P(trend)=0.83; MDM2: HR=0.98, 95%CI: 0.80-1.21, P(trend)=0.88). We also evaluated the potential combined effects of both SNPs on breast cancer risk, however, none of their combined genotypes showed any evidence of association. CONCLUSION: There was no evidence that TP53 Arg72Pro or MDM2 309T>G, either singly or in combination, influence breast cancer risk in BRCA1 or BRCA2 mutation carriers.