DNA copy number changes in cervical adenocarcinoma

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PURPOSE: There is evidence that specific genetic events are involved in the initiation and progression of squamous cell carcinoma of the uterine cervix. The genotype-phenotype correlations in cervical adenocarcinoma (AC) are unclear. Experimental Design: Comparative genomic hybridization was applied to screen for DNA copy number gains and losses in 22 cervical ACs of clinical stage IB. IHC was performed in all of the samples to determine HER-2/neu expression (HercepTest). RESULTS: The most frequent copy number alterations were DNA sequence gains of chromosome 17q (54%). HER-2/neu expression (score 2+) was immunohistochemically detected in 2 of 22 tumors. DNA sequence losses were most prevalent on chromosomes Xq (50%), Xp (36%), 18q (36%), and 4q (36%). DNA sequence losses of chromosome 18q were associated significantly with poor prognosis in cervical AC ($P > 0.01$). CONCLUSIONS: DNA sequence copy number gains of chromosome 17q are frequent events in ACs of the cervix. However, gains on 17q are not associated with HER-2/neu expression in cervical ACs. The inactivation of tumor suppressor genes on chromosome 18q might be responsible for the progression of both cervical AC and cervical squamous cell carcinoma.
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