

Expression of HAb18G is Associated with Tumor Progression and Prognosis of Breast Carcinoma

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Background HAb18G is a recently identified hepatoma-associated antigen and its association with tumor growth, invasion and angiogenesis has been studied in a variety of tumors. However its role in the tumor progression of breast cancer has not been explored. **Methods** HAb18G expression was examined by immunohistochemistry in pathological sections of 1637 breast tissue samples and by in-situ hybridization in 41 cases of invasive breast carcinomas (IBC). **Results** While not detected in any cases of tumor-like conditions or benign tumors of breast, and only rarely in normal tissue (4.4%), HAb18G expression was gradually up-regulated from atypical ductal hyperplasia (27.3%), to ductal carcinoma-in-situ (59.8%), and to IBC (61.4%) ($P<0.01$). Its expression in IBC was correlated positively with C-erbB-2 expression and histologic grade ($P<0.001$), and negatively with the expression of estrogen and progesterone receptors ($P<0.001$). Significant differences of expression were also identified among the subgroups of IBC examined: in decreasing order from invasive micropapillary carcinoma, ductal carcinoma, lobular carcinoma, papillary carcinoma, medullary carcinoma, to mucinous adenocarcinoma ($P=0.001$), corresponding to their known clinical aggressiveness. In an expanded group of 186 IBC patients with proper follow up, our previous findings were confirmed: HAb18G expression was significantly associated with local recurrence, distant metastasis and tumor mortality ($P<0.01$). We also demonstrated up-regulated tumor expression of HAb18G was a strong and independent predictor of reduced disease progression-free survival rate and a shorter overall survival. **Conclusion** This study suggests that HAb18G expression is associated with breast cancer progression and prognosis. Further evaluation of this new marker in breast cancer is indicated.