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.