

Effect of Hepatocyte Growth Factor on E-cadherin in Hypopharyngeal Squamous Cell Carcinoma

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Objective : Hepatocyte growth factor(HGF) has known to stimulate motility, invasiveness, proliferation, and morphogenesis of endothelial cells. E-cadherin is a potent that plays a main role in the establishment of cell to cell adhesion. We therefore examined the expression of E-cadherin and effect of HGF on E-cadherin in hypopharyngeal squamous cell carcinoma (SCC).

Material and Methods : We performed immunohistochemical staining of 40 specimens each of normal mucosa and the hypopharyngeal SCC with E-cadherin antibodies. Reverse transcriptase polymerase chain reaction(RT-PCR) and Western blotting were done in hypopharyngeal SCC line (FaDu) after treatment by HGF of different concentration of 0, 10, 30 ng/mL. To examine the location of E-cadherin after treatment by HGF, immunofluorescence stain was done by confocal microscope.

Results : Even though intensity and location of E-cad-

herin expression were various, E-cadherin were expressed in all hypopharyngeal SCC. Reduced intensity of E-cadherin was not significantly correlated with lymph node metastasis and pathologic stage ($p>0.05$). But nonmembranous location of E-cadherin was significantly correlated with lymph node metastasis ($p<0.05$) and seemed to be related to recurrence ($p=0.07$). In FaDu, HGF decreased the expression of c-Met mRNA and protein of E-cadherin in dose dependent manner. In contrary to the sharp expression of E-cadherin in the edges of cell-cell contact sites in control FaDu cells, the blurred expression of E-cadherin was observed in cells treated with HGF.

Conclusion : Decreased expression and changed location of E-cadherin in hypopharyngeal SCC significantly correlated with the tumor progression and prognosis. HGF was one of the materials that changed the site of E-cadherin in FaDu.