

論文の内容の要旨

論文題目 非小細胞肺癌におけるインテグリン α 11の発現と術後再発に関する解析

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[Rationale] Integrins are transmembrane proteins that mediate cell adhesion to extracellular matrix. Integrin alpha 11 (ITGA11) is not expressed in normal alveolar epithelial cells and is a known receptor for collagen.

[Methods] We measured messenger RNA expression of integrins by quantitative RT-PCR in 80 samples collected from non-small cell lung cancer (NSCLC) patients who had undergone surgical resection. We analyzed clinical features, pathological stage, tumor size, vascular invasion, lymphatic invasion and postoperative recurrence-free survival. We also analyzed the relationship between the expression level of ITGA11 and overall survival with the Cancer Genome Atlas database. Cell proliferation, migration and invasion capacity were examined in cell lines after overexpression of ITGA11.

[Results] High expression of ITGA11 in NSCLC was associated with more advanced stage ($p = 0.031$), and expression of ITGA11 was not related to tumor size, vascular invasion or lymphatic invasion. High expression of ITGA11 was related to lower recurrence-free survival in all NSCLC patients ($p = 0.043$) and in stage I NSCLC patients ($p = 0.049$). This was consistent with *in silico* analyses of the Cancer Genome Atlas

database. Overexpression of ITGA11 in human cell lines had little effect on cell proliferation but resulted in increased migration and invasion capacity.

[Conclusion] High expression of ITGA11 in NSCLC was associated with higher cancer stage and postoperative recurrence. Our findings in human cell lines suggest that ITGA11 plays a significant role in cancer migration and invasion, which may lead to higher recurrence rate.