論 文 の 内 容 の 要 旨

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論 文 題 目

Immunohistochemical investigation of biomarkers
for predicting adipose tissue invasion in oral squamous cell carcinoma
（口腔扁平上皮癌の脂肪浸潤予見因子の免疫組織化学的研究）

（論文の内容の要旨）

〔Introduction〕

It is difficult to completely remove tumors with appropriate surgical margins due to anatomical limitations in OSCC. Barrier approaches which targeting anatomical and pathological defensive structures. The aim of this study was to identify a biomarker that could be used to predict adipose tissue invasion in OSCC. If such a marker were found, it may be possible to use the fatty layer as a barrier during tumor resection in appropriate cases of OSCC.

〔Material and method〕

The immunohistochemistry (IHC) staining of 30 primary OSCC patients whose surgical specimens was performed. Seven molecules as candidate predictive markers of fatty infiltration including MMP11, Collagen VI, E-cadherin, N-cadherin, α-SMA, FABP4 and IL6 were used for IHC. Adipose tissue invasion was assessed HE stained sections. The relationship between the tumor surface and tumor-adipose tissue contact area was also examined. On the bases of staining results, Correlation of IHC activity between tumor surface and tumor-adipose tissue contact area was compared by correlation coefficient. Differences in IHC activity between the tumors with and without adipose tissue invasion was examined by median test.

〔Results〕

In the tumor with fat invasion, strong expression of E-cadherin was evident in tumor surface, strong expression of α-SMA in the tumors of invasion front and surrounding connective tissues, and FABP4 only in connective tissues. On the other hand, Collagen VI immunoreactivity disappeared in the OSCC with fat invasion. From the comparison of H-Score at tumor surface and tumor-fat contact area, with the exception of IL-6, H-Scores were significantly correlated in the superficial and infiltrated areas. Except for E-Cadherin, the H-Score was higher in the infiltrated area. The result of the comparison of IHC reactivity on the tumor surface with and without fat invasion shown N-cadherin expression showed a tendency to be associated with buccal fat pad invasion. The result of the comparison of IHC reactivity on the Tumor – adipose tissue contact area with and without fat invasion are shown a tendency for the expression of α-SMA and FABP4 to be more frequent in cases of fatty infiltration. Significantly less Collagen VI was observed in fatty infiltration cases.

〔Conclusion〕

The expression levels of ***α***-SMA and FABP4 at connective tissue at tumor invasion area may be useful biomarkers for predicting adipose tissue invasion in OSCC. It would be possible to determine the optimal excision range using the fat layer as an anatomical barrier. Information about the expression of these biomarkers may be not available to surgeons during the preoperative period (preoperative biopsy). Further studies to identify more effective biomarkers are required.