F-18-FDG Positron Emission Tomography
Findings Correlate Pathological Proliferative Activity
of Oral Squamous Cell Carcinoma

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Background
It is still controversial whether FDG uptake is correlated with cellular proliferation and prognosis of oral squamous cell carcinoma (OSC). In this study, we performed PET study and immunohistochemical analysis to elucidate the relationship between FDG uptake and expression of cellular proliferative markers and pathological prognostic markers in patients with OSC.

Methods
FDG PET and immunohistochemical staining have been carried out in sixteen patients with OSC. Tumor uptake of FDG was expressed with standardized uptake value (SUV). The expression of Ki–67, Topoisomerase IIα (Topo IIα), p53, and p63 in cancer cells was quantitatively assessed with positivity of the immunohistochemical staining. SUV was compared with the results of immunohistochemical analysis.

Results
FDG PET study revealed that SUV ranged from 3.6 to 22.1 with average of 10.4. Average positive rate of Ki–67, Topo IIα, p53, and p63 was 68.9%, 58.9%, 72.0%, and 65.2%, respectively. Pearson product-moment correlation coefficient analysis revealed that SUV was significantly correlated with Ki–67 (r = 0.616, p = 0.01), Topo IIα (r = 0.677, p = 0.004), p53 (r = 0.613, p = 0.01), and p63 (r = 0.710, p = 0.002), respectively.

Conclusion
The present preliminary study indicated that FDG uptake was closely correlated with pathological cellular proliferative and prognostic markers in patients with OSC.

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References

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