

Ki67LI、その他進行度因子と SUVmax との関連性を検討した。

【結果】 SUVmax 値と臨床病理学的因子について student T 検定において検討したところ、cTstage、静脈侵襲、リンパ管侵襲、KI67、術後イベント群において有意な高値を示した。また SUVmax のカットオフ値を 8.0 として各因子との関連について  $\chi^2$  乗検定を行ったところ、cTstage、リンパ節転移、静脈侵襲、浸潤様式、KI67 で有意な関連を認めた。3 年全生存率に関しては有意差を認めなかったが、3 年無病生存率では SUVmax 高値群において有意に予後不良であった。

【結論】 PET から得られた様々なデータを用いて各因子と解析することにより、予後をはじめ、口腔がん治療における一助となりうる可能性が示唆された。

## P2-38.

### Predictive values of radiation pneumonitis by emphysematous lung evaluated by quantitative CT

(社会人大学院博士課程 2 年放射線医学)

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【Purpose】 To investigate whether patients with emphysema, defined by quantitative CT image measurement, had a risk factor of radiation pneumonitis (RP) when stereotactic body radiotherapy (SBRT) for non-small cell lung cancer (NSCLC) was performed.

【Methods】 Between March 2011 and June 2015, 68 consecutive patients with stage I NSCLC treated by SBRT dose of 75 Gy in 30 fractions were enrolled. The median age was 79 years old. The male to female ratio was 45 : 23 and tumor stage of T1 to T2 was 49 : 19. The severity of emphysema was evaluated by the percentages of the adequately determined lung volume near the tumor and the entire lung which had a low

attenuation area (LAA) of less than  $-860$  HU and  $-950$  HU. The LAA was calculated by the Synapse Vincent software. The level of radiation pneumonitis was assessed based on the common terminology criteria for adverse events version 4.0.

The frequency of radiation pneumonitis was determined by the Kaplan-Meier method. The Log Rank test was used to evaluate the frequency differences of RP associated with CT value. In multivariate analysis, the risk factors associated with RP were analyzed using the Cox proportional hazard model.

【Results】 During the median observation period of 18.1 months, 52 patients (76%) suffered from RP. Of these patients, 50 suffered from Grade 1 RP, one from Grade 2, one from Grade 3, and none had Grade 4. Emphysema level of more than 50% of LAA less than  $-860$  HU in the volume near the tumor and the entire lung volume had significantly lower incidence of RP ( $P=0.001$  and  $P=0.004$ ). In multivariate analysis, the percentage of LAA of less than  $-860$  HU in the volume near the tumor was the only significant risk factor for RP (Hazard ratio 0.35, 95% confidence interval 0.19 to 0.65,  $P=0.001$ ). The location of the tumor, gender, the radiation dose or the T factor were not significant.

【Conclusion】 Patients with emphysema defined by quantitative CT evaluation were associated with a low risk of radiation pneumonitis after SBRT.

## P2-39.

術前 CT による切除乳房と広背筋皮弁の採取量の評価を行う重要性和 X 線造影糸を用いた術前拡大広背筋皮弁体積の CT 解析と術前シュミレーションの重要性について

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【目的】 拡大広背筋皮弁を用いた乳房再建は有用な方法である。しかし皮弁採取量予測は客観性に欠けるため、切除乳房量に対して不足する場合や過剰採