

学位論文審査結果の要旨

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<p>(学位論文審査結果の要旨)</p> <p>Early Alteration in Apparent Diffusion Coefficient and Tumor Volume in Cervical Cancer Treated with Chemoradiotherapy or Radiotherapy: Incremental Prognostic Value over Pretreatment Assessments</p> <p>【主論文審査結果の要旨】</p> <p>著者らは論文において下記の内容を述べている。</p> <p>Purpose</p> <p>Our study aimed to evaluate a prognostic value of early changes in apparent diffusion coefficients (ADC) and tumor volume during treatment in patients with cervical cancer treated with chemoradiotherapy or radiotherapy, and to assess whether the early changes provided an incremental value to pre-treatment ADC and tumor volume in predicting disease recurrences.</p> <p>Methods and materials</p> <p>A total of 103 patients with stage IB–IVA cervical cancer including 76 (74%) patients with stage \geq IIIA who underwent magnetic resonance imaging before and during (25 ± 4.6 days after start) the treatment were enrolled. Eighty-one patients received chemoradiotherapy and the remaining 22 had radiotherapy. Both a volumetric ADC and volume of a tumor before and during treatment were measured. %ADC increase and %Volume reduction were defined as changes in the ADCs and tumor volume before and during treatment, respectively.</p>			

Results

During a median follow-up of 2.7 years, 42 (41%) patients had disease recurrences. Univariate Cox regression analysis revealed that pre-treatment ADC (Hazard ratio [HR] = 2.8; $p = 0.002$), %ADC increase (HR = 6.8; $p < 0.001$), and %Volume reduction (HR = 2.7; $p = 0.003$) were significant predictors for disease recurrences. On multivariate analysis, %ADC increase was the only independent predictor (adjusted HR = 5.2; $p < 0.001$) for disease recurrences when adjusted for %Volume reduction and pretreatment ADC. Global chi-square analysis demonstrated that %ADC increase and %Volume reduction had an additional prognostic value over pre-treatment ADC and tumor volume ($p < 0.05$). Kaplan–Meier curve analysis showed that both smaller %ADC increase and %Volume reduction were associated with worse prognosis in disease-free survival (log-rank, $p < 0.001$ and $p = 0.002$, respectively).

Conclusions

Among patients with cervical cancer treated with chemoradiotherapy or radiotherapy, early changes in tumor ADCs and tumor volume during treatment are associated with better prognosis. %ADC increase and %Volume reduction during the treatment have an additional prognostic value for predicting tumor recurrence to pre-treatment ADC and tumor volume.

化学放射線療法または放射線療法中の子宮頸癌における、ADC値および腫瘍体積の早期変化の予後予測について解析した論文で、学術上きわめて有益であり、学位論文として価値のあるものと認めた。

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