

Analysis of Epidermal Growth Factor Receptor (EGFR) Mutation in Sarcomatoid Carcinoma of Lung

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Introduction: Sarcomatoid carcinoma of lung is rare malignant neoplasm. Sarcomatoid carcinoma has poorer prognosis than other types of non-small cell lung cancers. In this report, we evaluated the clinicopathologic status and EGFR mutation test in the seven patients diagnosed as sarcomatoid carcinoma of lung in a single center. **Methods:** We retrospectively reviewed the medical records of seven patients who were pathologically confirmed as sarcomatoid carcinoma of lung at Ajou University Hospital between August, 1997 and January, 2014. Additionally, EGFR mutation test was performed by polymerase chain reaction (PCR) and sequence data were generated with DNA Analyzer. **Results:** The information of seven patients is summarized in the Table 1. The EGFR mutational analyses of the seven patients were done. The specimen of one patient was unanalyzable because of poor specimen quality and one of the other six patients had L858R mutation on exon 21 and the others had no mutations. **Discussions:** Sarcomatoid carcinoma of lung is rare malignancy and the treatment of the disease is not definitely established. Some previous case reports had already informed the efficacy of EGFR tyrosine kinase inhibitors for patients of sarcomatoid carcinoma with EGFR mutation and this study showed one patient with EGFR mutation out of seven patients. So, we may need active investigation about EGFR mutation in the sarcomatoid carcinoma patients and EGFR tyrosine kinase inhibitors will be good options in the patients.

Table 1. Patient characteristics and EGFR mutation - TNM(Tumor node metastasis) staging is based on the 7th edition of American Joint Committee on Cancer (AJCC) and the International Union Against Cancer (UICC). M-Male, CCRT-Concurrent chemoradiotherapy

	Age/gender	Surgery	TNM	Stage	Adjuvant treatment	Survival (month)	EGFR mutation
1	57/M	Yes	T3N0M0	IIIa	Adjuvant radiotherapy	7	No
2	45/M	Yes	T2aN0M0	Ib	Adjuvant CCRT	54	Not analyzable
3	66/M	Yes	T3N2M0	IIIa	Adjuvant CCRT	11	No
4	39/M	Yes	T4N1M0	IIIa	Adjuvant radiotherapy	5	No
5	81/M	Yes	T3N0M0	IIB	No	8	No
6	69/M	Yes	T2aN1M0	IIa	No	38(alive)	Yes
7	72/M	Yes	T2aN2M0	IIIa	Adjuvant CCRT	30(alive)	No

Prognostic significance of CT-emphysema score in patients with small cell lung cancer

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Introduction: Although emphysema is a known independent risk factor of lung cancer, no study has addressed the prognostic impact of CT-emphysema score in small cell lung cancer (SCLC). **Objectives:** To evaluate the prognostic value of emphysema score determined by baseline CT scan in patients with SCLC. **Methods:** We analyzed 149 consecutive patients with SCLC. The severity of emphysema was semi-quantitatively scored using baseline chest CT images according to the Goddard scoring system, ranging from 0 to 24. Data on clinical characteristics and survival were retrospectively collected. Maximal chi-square method was used to determine the optimal cutoff point for CT-emphysema score. Overall survival (OS) was estimated by the Kaplan-Meier method and compared with the log-rank test. A multivariable Cox proportional hazard model was used to identify prognostic factors. **Results:** Median patient age was 70 years (range, 38-92) and 67.8% had extensive disease at time of diagnosis. Most were male (85.2%) and current/ex-smokers (87.2%). The median CT emphysema score was four (range, 0-23). Patients with a high CT-emphysema score (≥ 8) have poorer OS than those with a score of < 8 (median: 5.0 months versus 12.3 months; $p < 0.001$). Multivariable analysis revealed that a higher CT-emphysema score was an independent prognostic factor of poor OS (hazards ratio, 1.57; 95% confidence interval, 1.07-2.30; $p = 0.020$), along with extensive stage ($p < 0.001$), supportive care only ($p < 0.001$), and an elevated lactate dehydrogenase level ($p = 0.034$). **Conclusions:** Emphysema severity determined by baseline CT is significantly associated with poor prognosis in patients with SCLC. **Keywords:** Emphysema, CT-emphysema score, Lung cancer, Squamous cell carcinoma, Prognosis