



Concurrent Chemoradiation for Locally Advanced NSCLC in the RTOG Experience: Effect of Overall Treatment Time

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Type of Session: Scientific

Background

A survival advantage has been shown in patients with non small cell lung cancer (NSCLC) with concurrent chemoradiation vs sequential chemoradiation or radiation alone.

With concurrent chemoradiation comes increased toxicity, and, hence, more treatment breaks.

This study was performed to determine if these treatment breaks affected outcome.

Materials and Methods

Data was taken from three prospective RTOG trials (91-06, 92-04, 94-10), in which cisplatin based concurrent chemotherapy was used as the primary therapy for good performance status Stage III NSCLC patients.

A total of 452 patients were evaluated.

Patients were required to have a KPS >70 or ECOG PS of 0-1

Patients were excluded if they received $\pm 10\%$ of their planned radiation dose or if they died within 90 days of the start of the treatment.

"Short" overall treatment time was defined as completing treatment within 5 days of planned schedule.

"Prolonged" treatment time was defined as completing treatment in $>$ than 5 days of planned schedule.

Median follow up was 3.64 years

Results

Treatment was delivered as per protocol in 379 patients (84%) (i.e.-"Short" group). 73 patients (16%) had "Prolonged" treatment.

Median survival was 19.2 months in the "Short" group, 16.2 months for patients in the "Prolonged" group ($p=.29$)

Local control was 74% at 1 year and 67% at 2 years in the "Short" group and 75% at 1 year and 67% at 2 years in the "Prolonged" group.

Significant esophagitis and a prolonged treatment time were significantly associated with each other.

Grade 3 esophagitis was 34% in the Short group and 53% in the Prolonged group ($p=.002$).

Author's Conclusions

Most patients with good performance status can finish treatment on time.

The effect of treatment time is not statistically significantly detrimental to local control or survival.

This may not be applicable to patients with lower performance status.

Clinical/Scientific Implications

As stated, with concurrent chemoradiation comes increased toxicity, which can often lead to treatment breaks. In treatment with radiation alone, these treatment breaks have been shown to be detrimental to survival. Therefore, it was useful to see if this same detriment would apply to those treated with concurrent chemoradiation, since the advantage seen with concurrent treatment could be nullified if treatment times were prolonged. As shown by this analysis, treatment time is not correlated with lower local control or survival. Therefore, while treatment breaks should not be taken lightly, patients who require treatment breaks certainly should not be denied them if the concern is with overall tumor control. It should be noted that all patients analyzed had good performance status, perhaps the best predictor of good outcome in lung cancer treatment. Therefore, these data presented may not apply to those with poorer performance status.

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