



Tumour growth kinetics as a potential predictive and prognostic factor in carcinoma of the lung

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Tumour growth kinetics have often been studied as an important predictive and prognostic factor for various malignancies (1-4).

Osorio *et al.* in their recently published article “*Clinical significance of pre-treatment tumor growth rate for locally advanced non-small cell lung cancer*”, have evaluated the implications of pre-treatment tumour growth rate upon progression free survival (PFS) in patients with locally advanced non-small cell lung cancer treated with definitive chemoradiotherapy (5).

The overall observations were of higher risk of distant recurrences and inferior PFS among patients with higher tumour growth rates.

These findings ignite the following discussions:

- (I) In general, tumours with a higher growth fraction are radiobiologically more likely to respond better to radiotherapy, owing to their ‘higher growth fraction’ (6,7). The findings of this study imply that factors other than the ‘higher radiosensitivity of tumours with higher growth fraction’ are at play. The increased incidence of distant relapses among patients with tumours having higher growth rates is likely to imply an intrinsic aggressiveness which could override intrinsic radiosensitivity of these tumours with high growth factors;
- (II) Could pre-treatment tumour growth kinetics be utilised as a predictive factor in the future? If the findings of this study could be replicated in larger studies, it is possible that tumours with higher growth factor may be treated with more intense chemotherapy and radiotherapy. Also, when feasible, surgery could be an alternative to chemoradiotherapy in these tumours.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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