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Current Topics in Preclinical Evaluation of Radiation-Induced Pulmonary Injury

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Preclinical evaluation of radiation-induced pulmonary injury reviewed in this article is of a great clinical imortance. The experimental studies on rats can provide essential information for testing the underlying assumptions of mathematical models that predict the effect of treatment volume on the normal tissue complication probability in patients receiving thoracic radiotherapy. Such relationships are especially relevant for ascertaining the benefit of new radiotherapeutic strategies (e.g., conformal photon or proton radiotherapy) aimed at reducing the amount of normal tissue exposed to radiation. The studies involving pretreatment with chemotherapy are paricularly relevant for increasing the use of high-dose chemotherapy in combination with radiotherapy. The measurements of TGF-b as a putative mediator of inflammation and fibrosis in radiation-induced injury could allow us to properly evaluate its usefulness as a routine predictor or indicator of pulmonary injury in individual patients and may consequently provide an opportunity for a therapeutic intervention.

Key words: *lung; neoplasms; radiation injuries*

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