
Q. (Zsollich): Is your model similar to human emphysema physiologically?
A. (Niehaus): I don’t know yet.
Q. (Thurlbeck): Some animal emphysema models more closely resemble senile emphysema rather than the clinical human equivalent.
A. (Matthay): Which elastases produce emphysema?
A. (Niehaus): Pancreatic elastase is the most practical to use; it is also functionally close to PMN elastase.

Development of an Animal Model of Functional Alpha1-Antiprotease Deficiency*

A canine model of functional alpha1-antiprotease (A1-AP) deficiency has been developed using intravenous administration of chloramine-T (CT), a mild oxidizing agent to which A1-AP is particularly sensitive. The dose was 300 mg in saline solution three times a week. Precautions were taken to minimize possible toxic side effects of hemolytic anemia and methemoglobinemia by treatment with methylene blue and vitamin E. Serum samples, taken regularly over a six-week period, were tested for elastase inhibitory capacity (EIC), trypsin inhibitory capacity (TIC) and total immunologically active A1-AP. Bronchial lavage, using fiberoptic bronchoscopy, was performed twice on each animal and analyzed for EIC, TIC and differential cell count. The serum EIC was reduced to 30 percent of control values within one week after CT treatment was initiated and remained reduced over the remaining six weeks of CT exposure. The TIC was only marginally affected, being reduced to 80 percent of normal. The unique response of the EIC suggested a specific binding

Development of a Hemagglutination Assay to Measure Elastin Fragments and Antielastin Antibodies*
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The development of pulmonary emphysema may result in the release of peptide fragments formed by the enzymatic degradation of the amorphous component of lung interstitial elastin. In an attempt to establish an aid in the early diagnosis of emphysema, we have developed a hemagglutination assay to specifically and quantitatively measure the amount of circulating lung elastin fragments generated by the in vivo action of elastase on lung parenchyma. The titer of anti-elastin antibody

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