

Studies on the Lung Scintigram of Bronchial Asthma (4th Report)

—On the Relation between Gas in the Arterial Blood to Lung Scintigram—

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We reported that lung blood circulation kinetics of bronchial asthma in the child was found by lung scintigram of ^{131}I -MAA intravenous injection and perfusion abnormalities of pulmonary segments was observed on multiple-view scintigrams (6 to 8 projection including anterior, posterior, lateral or oblique).

In this report, we studied that the relation between distribution of local perfusion defects and gas Concentration in the arterial blood of 53 cases.

1) On degree of attacks (no attack, mild attack, intermediated attack and severe attack), the more severe attack was, the more segments were injured.

2) Injured segments were mainly found in the right lung of all patients but were found

in both of the lung in severe patients.

3) Injured segments were found upper or lower region of the lung, and the more cases of lower region abnormalities were found in the more severe attack.

4) Most cases were hypocapnic in attack, and hypoxic metabolic acidosis and light respiratory alkalosis were generally found in arterial blood.

5) On the relation between arterial blood gas kinetics and injured pulmonary segments, the more hypoxic the arterial blood gas was, the more segments were injured and those patients were clinically more severe.

It may be unlikely seen that PH, PaCO_2 and BE were rightly correlated with perfusion abnormalities.

The Application of Gradient's Method to the Computer Analysis of ^{133}Xe Wash-out Curve Via Portal Route for the Determination of the Hepatic Blood Flow

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The purpose of this study is to evaluate the analytic method of the ^{133}Xe wash-out curve through the portal vein for the deter-

mination of the hepatic blood flow in the various liver diseases. Studies were performed on 30 patients at the time of upper ab-