of patients of the 3rd group. Pulmonary perfusion scintigraphy in patients with VSD is a valuable procedure that provides an important information to evaluate the extent of pulmonary hypertension.

Quantitative Estimation of Pulmonary Hypertension by Perfusion Scintigraphy

M. FURUDATE*, Y. MINAMI**, M. SHIDA**, Y. OSAKI**,
J. ANDO***, A. MIYAMOTO*** and T. KOBAYASHI***
*Department of Radiology, Hokkaido University, School of Medicine, Sapporo
**First Department of Internal Medicine, Hokkaido University, School of Medicine, Sapporo
***Department of Cardiovascular Medicine, Hokkaido University, School of Medicine, Sapporo

A nontraumatic technique for estimation of pulmonary arterial pressure in the patient with pulmonary hypertension was studied by perfusion scintigraphy of intravenously injected ^{99m}Tc-labelled macroaggregated albumin using scintillation camera and computor system.

Perfusion scintigraphys were obtained in 22 patients. Seven patients had precapillary arterial pulmonary hypertension, seven had postcapillary venous pulmonary hypertension, three had heart disease with no pulmonary hypertension (non hypertensive) and five had no disease (normal). The Upper/Lower lobe blood flow ratio (U/L ratio) was calculated as the ratio of concentration of radioactivity between the upper and lower thirds of the right lung scintigram. Vertical or Horizontal image was obtained in the sitting posture or supine posture during injection of ^{99m}Tc-labelled macroaggregated albumin. The Vertical/Horizontal ratio (V/H ratio) was calculated by dividing U/L ratio of vertical image by that of horizontal image. In five normal subjects, seven patients with precapillary arterial pulmonary hypertension and seven patients with postcapillary venous pulmonary hypertension, this V/H ratio averaged 0.51 ± 0.09, 0.94 ± 0.22 and 0.89 ± 0.24. This V/H ratio in patients with pulmonary hypertension was significantly greater than normal. There was an excellent correlation between V/H ratio and the mean pulmonary arterial pressure.

This method appears to be useful in determining whether the pulmonary arterial pressure is elevated in patients with pulmonary hypertension.

Perfusion and Ventilation Scintigraphy in Follow-up Study of Lung Cancer

Takeo KATSURA*, Shoji NISHIYAMA*, Michimasa MATSUO*, Kazuo ITO*, Yoshio INOUE*, Etsuo OGAWA*, Rhuji TAKAHASHI*, Shuji KIMURA*, Machiko KOMANO**, Keiji USHIO**, Kazuyuki NARABAYASHI**, Akira MATSUMOTO***, Rhuji ONISHI*** and Shoji YOSHIDA****
*Department of Radiology, Kobe University School of Medicine
**Hyogo Cancer Center, ***Sumitomo Besshi Hospital, ****Kochi Central Hospital

Perfusion and ventilation scintigraphy using ^{99m}Tc-MAA, ^{133}Xe solution, ^{133}Xe gas and ^{81m}Kr gas carried out on 230 cases of lung cancer. In order to evaluate the clinical significance of perfusion and ventilation scintigraphy in follow up study of lung cancer, a series of 41 proven cases of lung cancer, those had periodical repetation of perfusion and ventilation scintigraphy during the course of radiation therapy, was reviewed and following results were obtained:

1) There was a good correlation between the grade of impairment of gas ventilation and blood perfusion in most of cases. However, in several cases a considerable discrepancy was noticed between them, and in such cases perfusion was usually more severely impaired than ventilation. This tendency appeared to be a distinct feature in lung cancer.

Presented by Medical*Online