^{133}Xe-solution was injected intravenously in the patient with Wegener's granulomatosis.

First, 4 cases with aortitis syndrome were demonstrated. In the chest roentgenograms, there were no abnormal findings, but the lung scan revealed unevendistribution of radioactivity with clear cut "cold" zones, which suggested the presense of the stenosis or obstruction of pulmonary artery branch. After several days, this was confirmed by pulmonary angiography.

Next, a case with Wegener's granulomatosis was predented. No abnormal shadow was seen in the chest film and the lung scan illustrated the uniform distribution of radioactivity. In this patient, "^{133}Xe-rebreathing technique" was performed using the scintillation camera and ^{133}Xe-solution. In the "Wash-out Phase", abnormal hot area was noticed indicating trapping ^{133}Xe gas in respiratory trees.

Finally, in 3 patients with sarcoidosis comparison between lung scan images and the csest roentgenograms. No correlation was found between them.

The Pulmonary Scintigraphic Abnormalities Seen in Aortitis Syndrome (Second Report)

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This is our second report (the first report being presented at the 9th Annual Meeting of Japanese Nuclear Medicine) on the scintigraphic abnormalities seen in aortitis syndrome.

Twenty seven patients were studied (2 males and 25 females). Aortography was done in all except for one on whom angiographic study was deferred because of possible pregnancy. Injection of ^{131}I-MAA (0.2 mCi) was made in the supine position. For the interpretation, right to left counting ratios (R/L) in the upper (2nd intercostal space) and in the middle (3rd intercostal space) lung zones were used, the normal ranges being defined as 0.82 R/L 1.15 for the upper zone and 0.92 R/L 1.30 for the middle zone. These normal ranges were obtained from the study of 17 normal pulmonary scintigrams representing the 99.9% confidence limits of R/L ratios.

Results and Discussion: Out of 27 cases, normal scintigrams were seen in only six. Upper zonal abnormalities were found most frequently, being observed in 18 out of 21 abnormal scans.

In the patients with aortitis syndrome, past history of tuberculosis is not uncommon. Out of 27 cases studied, the old tuberculous scars in the chest X-ray films were noticed in 9, of whom the scintigrams were abnormal in 7. The zones of abnormalities were often coincided with each other indicating the presence of common etiological process, namely tubeculous infection. For the other 14, whether tuberculosis or aortitis syndrome per se is responsible for the scintigraphic abnormalities is undetermined at this moment. Since it is not unreasonable to suspect that tuberculous pulmonary arteritis can trigger the auto-immune processes involving aortic arch and its major branches, further studies should be carried out to prove or disapprove the possible role of tuberculosis as a major cause of this syndrome.