

## G. Blood, Bone Marrow, Spleen and Reticuloendothelial System

### DEPOSIT OF RADIOCOLLOIDS IN VARIOUS CONDITION (REPORT 2)

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We have already reported that, in animal studies, the larger the size of i.v. injected  $^{99m}\text{Tc-Sn}$ -colloid particles were, the more they were taken up in lungs, and also reported as to increased phagocytic activity in lungs of mice that was induced by RES activator such as endotoxin. In practice, lungs are occasionally visualized only by  $^{99m}\text{Tc-Sn}$ -colloid rather than  $^{198}\text{-Au}$ -colloid and  $^{99m}\text{Tc-phytate}$ .

Out of 537 cases of liver scintigraphy in the Radiology Dep. of Showa University Hospital, significant deposit of  $^{99m}\text{Tc-Sn}$ -colloid in lungs was noticed in 14 cases. We excluded the cases in the situation that lungs were visualized in all the patients who had been scanned by use of  $^{99m}\text{Tc-Sn}$ -colloid simultaneously prepared. Following results were obtained in review of the cases;

1. Normal liver scintigrams	43%
2. Disorders in hepatocellular liver function	86%
3. Splenomegaly	80%
4. Ascites	43%
5. Mortality rate within 1 year	50%

Conclusion is that abnormal deposit of  $^{99m}\text{Tc-Sn}$ -colloid may be based upon RES activation in lungs accompanied by highly damaged liver function.

### LYMPHOSCINTIGRAPHY WITH TECHNETIUM- $^{99m}$ SULFUR COLLOID

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Clinical evaluation of lymphoscintigraphy were performed after the measurement of the particle size in the various type of technetium- $^{99m}$  colloid.

$\text{Tc-}^{99m}$  sulfur colloid (CIS) was observed in the smallest size of commercially available  $\text{Tc-}^{99m}$  colloid which passed through 0.22 $\mu\text{m}$  milipore filter. And it was determined as an appropriate agent for lymphoscintigraphy.

Two and a half mCi of  $\text{Tc-}^{99m}$  sulfur colloid was injected subcutaneously with 500IU hyaluronidase into the peripheral sites of lymph ways such as web spaces of both feet or bilateral subcostal regions. Imaging was performed 5 hr after injection of the radio colloid with scintillation camera. The cases of breast cancer, cervical cancer, malignant lymphoma and various type lower extremity edema were studied.

As the abnormal findings, assymetrical activity of the lymph channels or disappear of the nodes, enlarged nodes with decreased activity, activity in the soft tissue were observed in cancer metastasis, advanced malignant lymphoma and advanced lymphedema respectively.

In conclusion, lymphoscintigraphy is a simple and noninvasive procedure in the evaluation of lymph nodes such as malignant diseases. And it can be utilized as a screening procedure of these cases.