

### **The Clinical Usefulness of Monomer Complex of $^{99m}\text{Tc}$ -Bleomycin**

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A labeling procedure of bleomycin with  $^{99m}\text{Tc}$  has previously been reported by our laboratory. Although this method has yielded a good qualified product for tumor detection, a small amount of free pertechnetate was occasionally detected by thin layer chromatography analysis. Further studies have been shown the presence of two different complexes in the preparation; a monomer, a stable complex and a polymer which undergoes slower decomposition as the time elapses. The presence of either complexes were very sensitive to small changes of the labeling conditions, such as pH, and concentration of  $\text{Sn}^{++}$ . In order to selectively prepare the stable form of  $^{99m}\text{Tc}$ -bleomycin (Tc-BLM), the use of buffer solution (pH=6) and an extremely reduced amount of the stannous tin, in the order of  $10^{-9}$  mol, were chosen. No

ascorbic acid was used with this method.

The in vivo studies have also shown the stability of the monomer complex and the disappearance from the blood was faster than the polymer, which has shown an unstable behavior. The faster blood disappearance enhance the tumor-blood ratio, a highly desirable factor to be considered in a tumor imaging agent. The use of the ascorbic acid in the original method can also be estimated as the sequestering agent of  $^{99m}\text{TcO}_4^-$ , which might be resulted in a rapid renal excretion.

It is advisable to use the stable monomer complex of  $^{99m}\text{Tc}$ -BLM and a good reproducibility has been proved in the clinical field. A ready-to-use kit method using a stannous tin adsorbed cationic exchange resin is under progress.

### **Ga-67 Scintigram of Uterine Cervical Carcinoma**

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The purpose of this study is to obtain valuable scintigraphy of cervical carcinoma with Ga-67 citrate, using gamma camera and a minicomputer system.

**Materials and Method:** Gamma camera (Nuclear Chicago, PHO/GAMMA HP) and a minicomputer system (Nova 1200 16K words, moving head disk 4047A Diablo 31, graphic computer terminal