good (C.V.=13.7%). In the 10-months pregnant women, serum estriol concentration was 13.9± 8.9 (SD) ng/m*l*. From the result, we concluded that radioimmunoassay of serum T_3 and estroil using the RIA kits (Ames Company) would be sufficiently usable and promising ones.

Experimental Study on Detoxication of Hepatitis B Surface Antigen (HBs-Ag) in Reference to Radioactive Waste Disposal

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Small medical apparatuses directly contacted with human blood possessing hepatitis B surface antigen (HBs-Ag) have potential sources involving viral hepatitis to a person handling them.

The authorized agency responsible for radio-isotope waste disposal in Japan usually refuses handling and collections of any materials directly referred to human blood, if special antiviral procedures have not previously taken against HBs-Ag, because they are afraid of infection of viral hepatitis.

The objective of the study is to investigate effective and practical methods of chemical detoxication of HBs-Ag which is involved in small apparatuses used in nuclear medicine. 0.5 to 5 m*l* plastic syringes were used as small apparatuses in the study. The inner surfaces and needles were contaminated with HBs-Ag by means of putting 0.5 to 1 m*l* of HBs-Ag positive human blood into the syringe. Then, the inner surfaces and needles were rinsed away with 1 m*l* solution of saline or of following disinfectants of various concentration; NaC10, PACOMA*, IRGASAN-DP300* HIBITANE*, alcoholic glutar-aldehyde or CLEAN 99L* (*abbraviates trade marks), The detoxication of HBs-Ag was examined by radio-immunoassay with AUSRIA-II kits on 0.2 m*l* of rinsing solution above mentioned.

The results of assay showed that 10000 PPM NaC10 and 2.5% alcoholic glutar-aldehyde were the most effective, completing detoxication in short time; 0.5% IRGASAN-DP300 and 5000PPM NaC10 did effective in a certain condition alone or less effective; and PACOMA, HIBITANE and CLEAN 99L did not effective.

Measurement of Serum Digoxin Using Digoxin ^{125}I Radioimmunoassay and Its Clinical Application

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Digoxin is the most widely prescribed cardiac glycoside in order to control of congestive heart failure and certain abnormalities in the cardiac rhythm. Measurement of serum levels of digoxin is important in the clinical management of patients receiving this drug.

Recently, the Digoxin ^{125}I-Imusay kit^{R} was provided by Abbott Laboratories. Fundamental problems on performing this assay systems was investigated and its clinical usefulness was evaluated.

Standard curve was shown quite linear with rapid decline on linear scale during 0.0 to 2.0 ng/m*l* of digoxin concentration. Per cent bound was increased from 0 to 60 minutes at incubation and it reached plateau after 60 minutes. The temperatures during the assay were tested at 4°, 17°, 25°, and 37°C, respectively. Then the most precise condition for the assay was obtained at 25°C. Coefficient of variation in within-assay was 9.5% and the