33 RADIOTIUMNOASSAY OF SERUM GLUCAGON: EVALUATION OF A NEW COMMERCIAL KIT SUPPLIED BY DAINABOT LABORATORY. T. KATSU, M. ISHIMARU, K. ISHITOB, Y. HARADA, N. YAMAMOTO and K. UYAMA. Tottori University School of Medicine and Tottori Red Cross Hospital, Yonago and Tottori.

A sensitive and precise radioimmunoassay for glucagon using anti-pancreatic glucagon H-24I2D serum has been developed by Dainabot Laboratory. This assay was highly specific. Detection limit was approximately 50 pg/ml and standard curve lined up to 1,600 pg/ml. The mean coefficient of intra-assay variation was 6.0 ± 1.6 % and that of inter-assay variation was 7.7 ± 1.7 %. The mean recovery ratio was 110 ± 27 %. The fasting concentrations of glucagon (IGA) were as follows: 62±35 pg/ml in normal subjects (N=86), 104±43 pg/ml in diabetics, and 100±110 pg/ml in patients with hyperglucagonemia. The detection limit was approximately 50 pg/ml. The intra-assay variation was 7.7±1.9 %. The mean recovery was 70±0.

Blood was drawn every 30 min for 1 hr and every hr for following hrs and urine was collected every 30 min, to 3 pm. Plasma and urinary glucagon were detected by a radioimmunoassay recently established in our laboratory (Clin. Pharmacol. Therap. 25:549, 1979). Plasma glucagon levels at 9 am were 259±101 (M±SEM) ng/ml for smokers and 9.6±3.9 ng/ml for nonsmokers but these levels did not change significantly during the experiment. In contrast, urinary glucagon levels in nonsmokers changed from 5.4±2.8 ug/ml at 10 am or 5.9±0.75 ng/ml before the experiment to 3.7±1.7 ug/ml or 356±172 ug/ml at 2 pm whereas those for smokers before the experiment, 45.5±15.2 ug/ml or 1267±449 ug/ml respectively showed no change. It is suggested that passive smoking due to the indoor smoke may increase urinary glucagon secretion in nonsmokers.

35 EFFECT OF PASSIVE SMOKING DUE TO INDOOR TOBACCO SMOKE ON PLASM AND URINARY COTININE LEVELS IN NONSMOMERS. S. Matsukura, S. Sueoka, H. Yoshimi, M. Yokota, Y. Hirata, and T. Fujita. Third Division, Department of Medicine, Kobe University School of Medicine, Kobe.

To evaluate the effect of passive smoking due to the indoor tobacco smoke we measured plasma and urinary cotinine in 10 of each nonsmoker and smoker who were requested to stay in a room (2.6×3.8×4.8 m) without ventilation after water load (400 ml orally) from 9 am to 3 pm, during which each smoker smoked 9 cigarettes for the first 90 min. Blood was drawn every 30 min for 1 hr and every hr for following hrs and urine was collected every 30 min, to 3 pm. Plasma and urinary cotinine were determined by a radioimmunoassay recently established in our laboratory (Clin. Pharmacol. Therap. 25:549, 1979). Plasma cotinine levels at 9 am were 259±101 (M±SEM) ng/ml for smokers and 9.6±3.9 ng/ml for nonsmokers but these levels did not change significantly during the experiment. In contrast, urinary cotinine levels in nonsmokers changed from 5.4±2.8 ug/ml at 10 am or 5.9±0.75 ng/ml before the experiment to 3.7±1.7 ug/ml or 356±172 ug/ml at 2 pm whereas those for smokers before the experiment, 45.5±15.2 ug/ml or 1267±449 ug/ml respectively showed no change. It is suggested that passive smoking due to the indoor smoke may increase urinary cotinine excretion in nonsmokers.