MASS SCREENING PROGRAM OF THYROID DISORDERS IN EARLY PREGNANCY AND IT'S SIGNIFICANCE.
M.Murata, K.Sawada, K.Okada*, N.Momotani**, K.Ito** and M.Matsumoto***. The Second Hospital of Tokyo Women's Medical College, *Tokyo Branch of Japan Association for Maternal Welfare, **Ito Hospital, ***Tokyo Association of Health Service. Tokyo.

The thyriod abnormalities in pregnant women are known to be relatively frequent and perticipate in various disorders of pregnancy. A screening program was begun in November 1980 with the purpose of adequatly controlling pregnancy and child birth and assuring healthy growth of the fetus and the newborn.

At the time of the pregnant women's initial examination, blood samples were obtained on the same filter paper used to mass-screen neonatal congenital hypothyroidism. These were sent to the screening center (Tokyo Association of Health Service) for measuring T4, TSH, TBG, and antithyroid antibodies (Microsome Test and Thyroid Test, Fuji Zoki, Tokyo, Japan). Free thyroxine index (FT4I) was calculated by shishiba's equation.

Hypothyroid state is suspected, when TSH value is above or 20 micro U/ml and if TSH value is between 15 and 20 micro U/ml, the sample is reexamined. If T4 value is less than 3rd percentile and FT4I is less than 0.9, hypothyroid state is also suspected. Hyperthyroid state is suspected, when T4 value is above or 95 percentile and FT4I is above or 2.2. If T4 value is above or 15 microgram/dl and antithyroid antibodies are positive, the sample is reexamined. The suspected pregnant is refered to Ito Hospital or The Second Hospital of Tokyo Women's Medical College in order to perform further clinical and endocrinological examinations.

By the end of June 1983, 21,389 pregnants were screened. Among these pregnants 144 pregnants (0.67%) were suspected to have thyroid disorders and recommended to perform further pricise examinations. Among these suspected pregnants 98 pregnants agreeded to be performed further examinations. Among these 98 pregnants 41 were normal, 19 were hyperthyroidism, 18 were simple goiter, 14 were Hashimoto disease and 6 were hypothyroidism.

If all of the suspected pregnants were further endocrinologically examined and the frequency of each thyroid disease was not changed, frequency of hyperthyroidism would be 1 per 760 pregnants (1/760), that of hypothyroidism would be 1/2370 and that of goiter would be 1/820. The frequency of Hashimoto disease would not be precisely calculated, because detective method of that disease is not good in this program.

All of the pregnants with thyroid disorders who were found in this mass-screening program had no clear clinical signs and symptoms at the time of their initial medical consultation, and two thirds of the hyperthyroidism and all of the hypothyroidism should be treated after the examinations. These facts mean that this mass-screening program has practical significance.

SCREENING FOR POSTPARTUM THYROID DYSFUNCTION.
Nobuyuki Amino. Department of Laboratory Medicine, Osaka University Medical School. Osaka.

Recently we found that autoimmune thyroid diseases were aggravated after delivery and various types of thyroid dysfunction were developed. On the other hand we clarified the existence of subclinical autoimmune thyroiditis on the basis of the examination of significant association between serum anti-thyroid antibodies and histological changes in the thyroid gland. Subclinical autoimmune thyroiditis has been found in 8.5 per cent of women in the general population of Japan. Therefore we made population survey of postpartum thyroid dysfunction. Finally all 507 women were examined at 3 months postpartum between September 1979 and September 1980. Thyroid function was evaluated by the measurement of serum thyroxine (T_4), triiodothyronine (T_3) and thyrotropin (TSH) by radioimmunoassay. Anti-thyroid antibodies were measured by hemagglutination method and 25 biochemical constituents were also measured in all subjects to rule out the subclinical diseases. When the subjects had high T_4 and T_3, or low T_4 and high TSH, serum free T_4 was also measured by radioimmunoassay. Twenty-three subjects had abnormal thyroid function tests at 3 months postpartum. These subjects and other euthyroid subjects with positive anti-thyroid antibodies or with goiter were followed until 8 months postpartum. Finally we found that 5.5 per cent of postpartum women had thyroid dysfunction: 2.6 per cent of transient thyrotoxicosis, 1.4 per cent of transient thyrotoxicosis followed by transient hypothyroidism, 1.4 per cent of transient hypothyroidism and 0.2% of persistent hypothyroidism. Eighty-nine per cent of these subjects had positive reaction for anti-thyroid microsomal antibodies, suggesting that these postpartum thyroid dysfunction were induced by postpartum aggravation of subclinical autoimmune thyroiditis. As for the screening for these abnormalities in large scale, measurement of serum free T_4 by radioimmunoassay was seemed to be more suitable and economical. About half the subjects who developed postpartum thyrotoxicosis, had no significant enlargement of thyroid gland, suggesting that measurement of serum thyroid hormones is very important to make definite diagnosis of postpartum thyroid dysfunction.