

11789

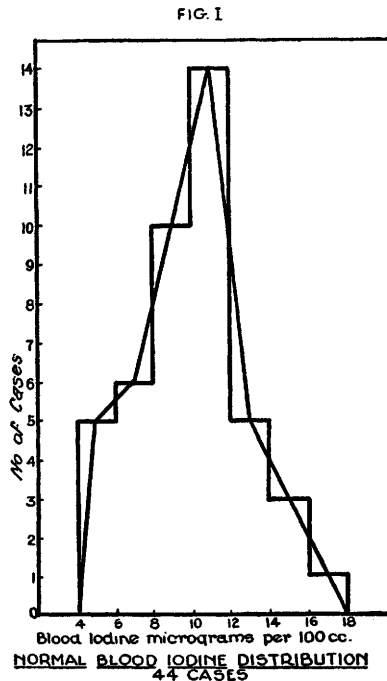
Effects of Iodine Therapy on Blood Iodine and Basal Metabolic Rate in Pregnancy.*

N. M. PHATAK, F. B. ZENER AND N. A. DAVID. (Introduced by E. S. West.)

From the Department of Pharmacology, University of Oregon Medical School, Portland, Oregon.

No definite correlation has been established so far between basal metabolic rate and the advance of pregnancy, but it is generally accepted that the basal metabolism tends to increase in pregnancy. This rise of B.M.R. may well be due to an acceleration of the activity of the thyroid gland in demand for increased iodine requirements during pregnancy. Maurer¹ and Bokelmann and Scheringer² have reported increased blood iodine values during the latter part of pregnancy.

For our study, Stevens'³ method has been used to determine blood



* Supported by a grant from Ciba Pharmaceutical Company, Summit, N. J.

¹ Maurer, E. E., *Arch. f. Gynak.*, 1927, **130**, 70.

² Bokelmann, O., and Scheringer, W., *Arch. f. Gynak.*, 1931, **143**, 512.

³ Stevens, C. D., *J. Lab. and Clin. Med.*, 1937, **22**, 1074.

TABLE I.
Basal Metabolic Rate and Blood Iodine in Control Group (Untreated Pregnant Women).

	1st trimester	2nd trimester	3rd trimester	At delivery	6 weeks post-partum
No. of cases	14.0	12.0	34.0	27.0	15.0
B.M.R. %	+15.4	+25.7	+27.0	—	+14.1
Blood iodine, γ per 100 cc	17.2	15.0	16.5	20.3	13.6

TABLE II.
Basal Metabolic Rate and Blood Iodine in Treated Group of Pregnant Women

	1st trimester	2nd trimester	3rd trimester	At delivery	6 weeks post-partum
No. of cases	14.0	12.0	13.0	8.0	6.0
B.M.R. %	+15.4	+13.0	+11.0	—	+ 3.0
Blood iodine, γ per 100 cc	17.2	79.2	40.8	27.2	23.6

iodine. The results are shown in Fig. 1. In this group of 44 normal individuals (27 medical students and 17 non-pregnant women), the average blood iodine value lies between 8 to 12 γ per 100 cc.

In Tables I and II are shown the average values for the basal metabolic rates and for blood iodine levels in pregnant individuals, both with and without supplemental iodine therapy.†

It is a common clinical observation that women who do not receive supplemental iodine therapy often suffer from obesity and/or menstrual disorders of various types following pregnancy, which may be ascribed to exhaustion of the endocrine system. Occasionally, the stimulation during pregnancy and labor may be so severe as to cause a toxic hyperthyroiditis. It is also noted that women receiving iodine during pregnancy feel better, are able to nurse their babies well due to an increased milk secretion and regain their antegravid state of well-being much sooner than otherwise.

Conclusions. There is a definite relationship between the advance of pregnancy and the basal metabolism of the gravid individual. The blood iodine level during pregnancy tends to increase. When iodine medication is used during pregnancy, the basal metabolic rate tends to remain close to the normal range of the non-pregnant individual. The supplemental iodine is utilized to a greater extent during the third trimester of pregnancy for at this time the blood iodine level decreases in contrast with the rise seen when iodine medication is withheld.

† Iodine therapy consisted of Lipoiodine-Ciba, N. N. R. 0.3 g daily all through pregnancy to term.