

PROGRAM

of the

THIRTY-EIGHTH
ANNUAL MEETING

of the

AMERICAN SOCIETY FOR
CLINICAL INVESTIGATION

To Be Given in

THE CLARIDGE HOTEL

Atlantic City, New Jersey

Scientific Session, Monday, May 27, 1946

There were no consistent changes in weight, urine volume, venous pressure or vital capacity or in the size of the thiocyanate space. No alterations of plasma and urine sodium concentrations were noted before, during or after treatment in 5 patients maintained on a controlled sodium intake. No difference in response was noted when sodium salicylates were replaced by acetylsalicylic acid.

The changes observed point to possible deleterious effects resulting from treatment with massive doses of salicylates. The increase in circulating fluids apparently is not accompanied by a definite increase in the extracellular fluid space and is not associated with sodium retention. It differs, therefore, from the alteration in fluid balance observed in congestive heart failure.

Elevation of Serum Precipitable Iodine During Pregnancy. By MARTIN HEINEMANN, CARL E. JOHNSON and EVELYN B. MAN (introduced by John P. Peters), New Haven, Conn.

Circulating thyroid hormone is measured more accurately by determinations of serum precipitable iodine than of basal metabolism. Since the latter increase during pregnancy, serum precipitable iodines were investigated in pregnant women. Their histories and physical findings excluded thyroid abnormality. Compared with a mean of 5.6 ± 1.3 gamma per cent in approximately 75 normal women, 35 determinations in 16 normal pregnant women ranged from 6.2 to 11.2 with an average of 8.4 gamma per cent, concentrations otherwise indicative of hyperthyroidism. This increase was noted as early as the third week of pregnancy and subsided within two weeks after delivery. It is not, therefore, correlated with the rise of basal metabolism which is a phenomenon of late pregnancy.

The implications of increased serum iodines during pregnancy are not clear. Thirty drops daily of Lugol's solution for one month did not diminish elevated serum iodines in 2 cases. Iodine concentrations were identical in umbilical and maternal venous serum at birth in 2 instances. Of two pregnant females with serum iodines less than those of the 16 normals, one miscarried for unknown reasons during the third month. The second threatened to miscarry in the fifth month but continued pregnancy after intravenous administration of thyroxin.

Elevated serum iodine concentrations seem to be physiologic during pregnancy.

Folic Acid in Pernicious Anemia. Studies on Effect, Mechanism of Action, and Excretion. By ROBERT W. HEINLE and (by invitation) ARNOLD D. WELCH and EVELYN M. NELSON, Cleveland, Ohio.

Although no failure in treating pernicious anemia in relapse with synthetic folic acid (2 to 100 mgm. daily) has been reported, only minimal reticulocyte responses occurred in one patient following each successive period of intramuscularly administered folic acid: 1, 6 and 12 mgm., respectively. With continued vitamin administration, xanthopterin given orally appeared to produce a fourth small response. Since 15-unit liver extract subsequently pro-

duced a theoretically maximal response, factors accessory to folic acid may be involved in certain cases.

A less than theoretically maximal, delayed response occurred in another patient with pernicious anemia in relapse, after daily intramuscular administration of synthetic folic acid (5 mgm.). Xanthopterin did not perceptibly augment the effect of the vitamin.

A third patient, extremely sensitive to liver extracts, relapsed while taking 16 'Extralin' capsules daily. Forty mgm. of synthetic folic acid daily by mouth caused remission.

Normal gastric juice, duodenal content, or both together, did not split *L. casei* factor from purified conjugated folic acid. Studies on therapeutic activity and human enzymic splitting of the conjugate are in progress.

The daily urinary excretion of *L. casei* factor in treated patients varied widely: oral—9 to 24 per cent; parenteral—15 to 75 per cent.

Radioactive Iodine Treatment of Graves' Disease—A Progress Report. By SAUL HERTZ, Boston, Mass., and (by invitation) ARTHUR ROBERTS, Cambridge, Mass.

Before the meeting of this society in May, 1942, a preliminary report by the authors presented data on their first trials of radioactive iodine in the therapy of patients with Graves' disease. Since that time, additional cases have been treated and a follow-up on the entire series of thirty-one (31) cases is presented in this report. The results are analyzed in the light of the entire experience at the Massachusetts General Hospital and elsewhere to date of January 15, 1946, with respect to the application of atomic energy for the internal Beta-irradiation of the hyperplastic thyroid of these subjects.

Clinical data are given which indicate strongly the therapeutic efficacy of this method in the treatment of Graves' disease by non-surgical means. The specific manner in which the therapy may be practically employed in a relatively inexpensive, highly effective, and safe program is outlined. The prediction is made that this method may displace the surgical ones now in vogue for the treatment of this disease when atomic energy sources are made readily available for controlled medical usage. The advantages and disadvantages of the several techniques which have been employed to date in this therapeutic program are discussed.

Quantitative Studies in Man of the Removal of Bromsulphalein from the Blood. By F. J. INGELFINGER, Boston, Mass.

After bromsulphalein, 150 mg./M² surface area, is injected intravenously, its disappearance rate from the blood of normal subjects is such that a constant percentage of the dye present in the blood is removed per minute (between 10 per cent and 15 per cent per minute). When similar doses are given to patients with extra- or intra-hepatic biliary obstruction, or when larger or repeated doses are given to normal subjects, the disappearance rate progressively decreases, possibly as a result of saturation of the removal mechanisms. In cases of cirrhosis without jaundice, the disappearance rate remains fairly constant, but ranges between 1.5 per cent and 5 per cent per minute.