A sample of jugular blood was taken from a dog of 14 kg. weight at 12:45, and then 50 c.c. of olive oil were given by stomach tube. Another jugular sample was taken at 3:45. At 4:45, the dog was stunned, the abdomen was opened and samples of portal and mesenteric blood taken. Then another sample of jugular was taken. The analyses of these samples are given in the table in gms. per 100 c.c. of blood. The cholesterol remains constant. The administration of 50 c.c. of olive oil raised the phosphatides 36 per cent. and the fatty acids 49 per cent. There is no difference, within the limits of error of the method (5 per cent.), between the jugular, mesenteric and portal. The absorption in this particular experiment was moderate. In another experiment, the fatty acids were increased 90 per cent. and still there was no difference between the portal and jugular.

	Cholesterol.	Phosphatides.	Fatty Acids.	Hemoglobin.
12:45. Jugular before giving oil...	.23	.42	.65	125%
3:45. Jugular.....	.22	.52	.93	123%
4:45. Animal stunned, portal.....	.23	.57	.98	126%
Mesenteric.....	.22	.56	.97	122%
Jugular.....	.23	.58	1.02	125%

To sum up the evidence then, we can safely say (1) that d'Errico's findings cannot be accepted because of the methods employed, and that they are not corroborated by our own data, (2) that in the experiments in which tying-off of lymph vessels was done, absorption may have been due to the lymph stasis, and (3) that the data here presented preclude the assumption of any very marked participation of the blood vessels in the absorption of fat leaving open the question of absorption of small amounts beyond the detection of the methods used.

54 (1514)

Studies in the diastatic activity of the blood and blood sugar curves indicating a decreased carbohydrate tolerance in hyperthyroidism.

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In studying the carbohydrate tolerance in hyperthyroidism and other conditions, three methods have been employed, the

diastatic activity of the blood, the fluctuations in the level of the blood sugar, and the sugar excreted in the urine after the administration of a definite amount of glucose by mouth. The diastatic activity was determined by the technic of Myers and Killian,[1] the blood sugar was estimated by the Lewis-Benedict method as modified by Myers and Bailey;[2] the Benedict-Osterberg[3] technic was utilized in the determination of the urinary sugar. It was early appreciated that fasting for twelve hours increased the tolerance for carbohydrate, so that glucose tolerance curves carried out on a fasting stomach did not truly represent the individual's carbohydrate assimilation limit. In our series the patients received in the morning, a standard meal which consisted of one egg in any form, two slices of bread, a cup of coffee, without sugar or milk, or a glass of water. Two hours later, the patient voluntarily emptied the bladder, and then received about 100 c.c. of water to drink. One hour after this, a specimen of blood and a specimen of urine were obtained. These represent the control specimens. The glucose was then administered by mouth in a 50 per cent. solution, 1.75 gm. per kilogram of body weight. At hourly intervals the specimens of blood and urine were obtained, and in these and in the control the sugar was estimated. The diastatic activity was determined only on the control specimen of blood.

The 23 cases presented are from a series of 275 patients examined, representing normal and various pathological conditions.

The control specimen of blood represents the level of blood sugar 3 hours after the standard meal. In normal cases it varied from 0.09 to 0.10 per cent.; in dyspituitarism of the Frölich type, in acromegaly and in Addison's disease a hypoglycemia was noted. In hyperthyroidism, however, the blood sugar ranged from 0.11 to 0.13 per cent. In normal cases the urinary sugar excretion was found to be 20 to 30 mgs. for the control hour; the output in dyspituitarism, acromegaly and in Addison's disease was diminished; the hyperthyroids excreted from 24 to 95 mgs.

Following the intake of glucose, the blood sugar in normal

[1] Myers and Killian, *Jour. Biol. Chem.*, 1917, XXIX, 179.

[2] Myers and Bailey, *Jour. Biol. Chem.*, 1916, XXIV, 147.

[3] Benedict and Osterberg, *Jour. Biol. Chem.*, 1918, XXXIV, 195.

cases reached the maximum from 0.13 to 0.15 per cent. at the end of one hour and in two hours time returned to normal. In hypofunctions of the endocrine system, there was noted practically no increase in the blood sugar; on the contrary hyperfunction of the thyroid produced a pronounced hyperglycemia after the glucose ingestion which persisted for 4 to 5 hours. In the hourly specimens of urine from these cases there was an evident glycuresis, which for a period of 3 hours totaled 1.4 per cent. of the glucose given. These specimens of urine gave positive reactions for sugar with Benedict's qualitative copper solution. The normal cases excreted during 3 hours from 0.1 to 0.2 per cent. of the glucose given and gave negative reactions with the copper reagent.

The diastatic activity of the blood was found to be decreased in dyspituitarism, acromegaly and Addison's disease, but in hyperthyroidism there was a distinct increase ranging from 20 to 34, except in 2 very early cases.

55 (1515)

The influence of systemic changes on local tissue reactions.

By JOHN AUER.

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In order to explain the occurrence of a massive, brawny edema at the site of operative wounds in sensitized, reinjected dogs, the following working hypothesis was formed: Sensitized animals which have circulating ineffective amounts of the antigen, may react locally with anaphylactic changes if through any mechanism (for example, by inflammation and edema) an effective dose of the antigen accumulates in those tissues.

This conception was then tested experimentally in the rabbit.

Rabbits were sensitized by four muscular and intraperitoneal injections of 4 c.c. horse serum at 4 to 5 day intervals. 15 to 21 days after the last injection, 10 c.c. of horse serum were given intraperitoneally. 30 to 45 minutes after the reinjection, none of the rabbits having shown any collapse, the hairy surface of the