

0.5 gram per kilo in three; less than one gram per kilo in two tests; and 1.5 grams per kilo in one test.

MORPHIN HYPERGLYCEMIA.

No.	AK5.	AK32.	Control 1.	Control 2.	AK5.	AK37.	Control 3.	Control 4.	BD3.	AK40.	Control 7.	Control 8.
Dose per kilo . . .	2 mg.	2 mg.	2 mg.	2 mg.	1 mg.	2 mg.	2 mg.	2 mg.	1 mg.	1 mg.	1 mg.	1 mg.
Normal	0.130	0.192	0.112	0.108	0.111	0.109	0.101	0.090	0.125	0.109	0.104	0.114
0.5 hr. after morphin	0.206	0.230	0.097	0.111								
1 hr. after	0.246	0.270	0.131	0.133	0.171	0.238	0.128	0.144	0.213	0.096	0.107	0.087
2 hrs. after . . .	0.275	0.315	0.128	0.151	0.209	0.297	0.124	0.138	0.197	0.141	0.136	0.115
3 hrs. after . . .	0.240	0.322	0.119	0.127	0.210	0.227	0.106	0.123	0.124	0.130	0.157	0.109
	All dogs fed 5 hours previously				Not fed to-day		Starved for 8 days		All dogs not fed to-day			

AK5: pancreas coagulated in situ with alcohol, 119 days before morphin test.

AK32: pancreas coagulated in situ with alcohol, 51 days before morphin test.

AK37: pancreas resected; uncinata process transplanted beneath skin 41 days before test.

BD3: five sixths of pancreas resected 90 days before; remaining sixth in connection with ducts.

AK40: uncinata process and tail of pancreas merely ligated 60 days before test.

Control dogs, normal animals, some were fasted.

Operated dogs all fed on regular *mixed* diet.

Blood samples from external jugular vein. Sugar determination by Myer's and Bailey's modification of the Lewis-Benedict method.

Whether the test will yield the same results in the human subject which we have obtained in dogs, can only be determined by trial, and such a trial we believe fully warranted by our findings. The procedure can easily be carried out with less than one cubic centimeter of blood if the Epstein method, for example, is used for determining the blood-sugar. The dose of morphin probably need not exceed 15–20 milligrams for an adult. The discomfort from the morphin will surely be considerably less than that following the ingestion of 1 to 200 grams of dextrose.

107 (1285)

Demonstration of the effects of castration on Seabright cockerels.

By T. H. MORGAN.

[From Columbia University, New York City.]

Two years ago I demonstrated before this Society castrated F_1 and F_2 cockerels that had been hen-feathered, but which in

consequence of the operation had, after moulting, begun to produce feathers characteristic of the normal male. Those birds have been kept to the present time, and now show a complete change to the cock-feathered type, except that the comb is reduced in size as in the ordinary capon. The spurs, however, appear to have their full growth. Since the F_1 birds were certainly heterozygous, and the few F_2 birds operated upon might have been heterozygous for cock feathering, it became desirable to carry out the operation on the pure Seabright cockerels which are always hen-feathered. The change in them, as the birds before you show, is as marked and as complete as in the F_1 and F_2 birds.

One bird after completely changing to cock-feathering (with reduced comb also) began after six months to change back; and, as is demonstrated by the bird, is at present in an intermediate stage. The comb has begun to enlarge again. Presumably a small piece of the testis was left—not large enough at first to prevent the change to cock-feathering—which has regenerated so far, that, at the last moult, the new feathers were affected.

108 (1286)

The effect of painting the pancreas with adrenalin on glycemia and glycosuria.

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About fifteen years ago Herter and his coworkers reported that painting the pancreas with adrenalin causes a considerable glycosuria and they even assumed that the pronounced nature of glycosuria following intraperitoneal injections appears to be mainly attributable to the readiness with which the injected adrenalin comes in contact with the pancreas. Vosburgh and Richards reported later that the painting of the pancreas with adrenalin produces considerable hyperglycemia. To our knowledge the validity of these unusual statements was not confirmed or even tested since their publication. We have carried out recently a long series of experiments in which the hyperglycemia