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The relation of the weight of the stomach- and cecum-contents to the body weight in rabbits.By **DON R. JOSEPH.**

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In much of our experimental work on mammals, we regulate our dosage in accordance with the weight of the animal. This is a source of error in the rabbit on account of the large size of the stomach and cecum in this animal. In order to find out how great this error is, I removed and weighed the contents of these two organs in one hundred rabbits which were used in the laboratory.

The details of these determinations will be given in the full report of this work. At present, I wish to say only that the average weight of the contents of these organs in the one hundred animals examined is equal to about ten per cent. of the total body weight of the living animal.

Grober¹ has recently made a similar series of observations, but he tied off, weighed and included, the stomach and cecum with their contents. According to my results, this is the source of another error which in some cases is almost as great as the inclusion of stomach- and cecum-contents in the body weight.

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The inhibitory influence of magnesium upon some of the toxic effects of eserine.By **DON R. JOSEPH.**

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In a paper on the relation of magnesium salts to gastro-intestinal peristalsis, Meltzer and Auer² stated that they were able to completely inhibit the general muscular tremor caused by eserine, by means of injections of magnesium sulfate.

Matthews and Jackson³ stated later they did not obtain a like

¹ Grober: Untersuchungen zur Arbeitshypertrophie des Herzens. *Deutsches Arch. f. klin. Med.*, 1907, xci, p. 504.

² Meltzer and Auer: *Amer. Journ. Physiol.*, 1906, xvii, p. 317.

³ Matthews and Jackson: *Amer. Journ. Physiol.*, 1907, xix, p. 12.

result. At Dr. Meltzer's suggestion, an attempt was then made to establish the facts in the case and to determine any other points of interest in the antagonism between these two drugs.

My results and methods may be briefly reported as follows :

First ; a method of registering the general fibrillary muscular contractions was worked out, the best result being obtained by stitching a tambour to the skin over the gluteal muscles, with the leg in a flexed position.

Second ; while writing the fibrillary tremor caused by eserine, MgSO_4^1 was slowly injected into the jugular vein. The result was an invariable stoppage of all tremor. This stoppage was brought about in from one half to one and a half minutes according to the rapidity of injection of magnesium. If the initial dose of MgSO_4 was sufficient, there was no recurrence of eserine tremor.

Third ; an attempt was made to ascertain whether MgSO_4 could be used as an antidote for eserine poisoning. Eserine was injected into rabbits intramuscularly in quantities usually sufficient to kill. Afterwards, MgSO_4 , was injected into the ear vein until the effect of eserine disappeared. In twenty two trials, the animals survived strongly toxic, and fatal, doses. The general tremor and convulsive movements stopped after the injection of from 2 to 4 c.c. of MgSO_4 solution. The magnesium effect was usually marked, however. If the depression of respiration was sufficient to cause danger of asphyxia, the injection of 1 c.c. of CaCl_2 solution into the ear vein was usually sufficient to counteract the action of MgSO_4 on the respiration.

Fourth ; the myosis produced by instillation of eserine, is not removed or modified by any dose of magnesium.

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Influence of iodides on autolysis.

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Dogs were given 0.1 gram of KI per kilo daily over periods varying from one week to three months. Only in one case were

¹ In the use of magnesium sulfate, molecular solutions were employed in all cases.