3492

Note on the Pharmacology of Ergothioneine.

M. L. TAINTER.*

From the Department of Pharmacology, Johns Hopkins University.

A new sulfur-containing compound has been recently isolated from the blood[1] which was identified[2] as ergothioneine, first obtained by Tanret[3] from ergot, and later shown to be the betaine of thiolhistidine by Barger and Edwins.[4] The only information we have found in the literature as to its pharmacologic action is a single sentence in the paper of Barger and Edwins[4] to the effect that the product is pharmacologically inactive. Since there is no statement as to the functions tested, it seemed advisable to reinvestigate this compound pharmacologically. We are indebted to Professor T. B. Johnson for our supply of the material.

Doses of 0.1 to 0.2 gm. per kilo injected subcutaneously in rabbits produced no change in the level of blood sugar over a period of 4 hours, as determined by the Hagedorn-Jensen method. In addition, there was no observable increase in respiration, pulse rate, nor diameter of the pupil following these rather large doses. In the cat, under amytal anesthesia, amounts ranging from 1 to 60 mgm. per kilo, intravenously, produced no change in the blood pressure, pulse rate, respiration nor biliary secretion. Excised strips of the cat's duodenum showed no alteration in tonus, rate, nor amplitude with concentrations in the bath up to 0.06 per cent ergothioneine.

Whatever may be the metabolic significance of ergothioneine, the negative results of the above experiments support the earlier conclusion that the substance has no well-marked pharmacological actions.

---

* Fellow of the National Research Council in Medicine.

[1] Hunter, G., and Eagles, B. A., *J. Biol. Chem.*, 1925, lxv, 623. Benedict, S. R., Newton, E. B., and Behre, J. A., *ibid.*, 1926, lxvii, 267.

[2] Newton, E. B., Benedict, S. R., and Dakin, H. D., *Science*, 1926, lxiv, 602. Eagles, B. A., and Johnson, T. B., *J. Am. Chem. Soc.*, 1927, xlix, 575.

[3] Tanret, C., *C. R. Acad. Sciences*, 1909, cxlix, 222, and *J. Pharm. et de Chemie*, 1909, xxx, 145.

[4] Barger, G., and Edwins, A. J., *J. Chem. Soc.*, 1911, ic, 2336.