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Experimental Therapy in Coccidiosis of the Domestic Fowl.

CARROLL NEFF. (Introduced by C. D. Leake.)

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In attempting to evaluate the relative therapeutic merits of various types of chemicals proposed from time to time as effective in coccidiosis of the domestic fowl *(Gallus gallus),* several such agents have been administered by mouth to naturally infested fowls, and the effects have been compared with the results obtained by rendering the intestinal contents more acid than normal by dietary regulation or by lactic acid. The hens studied were naturally infested with *Eimeria acervulina* Tyzzer, 1929, *E. maxima* Tyzzer, 1929, and *E. mitis* Tyzzer, 1929.

Diphenylamine and 3-acetylamino-4-hydroxyphenylarsonic acid (acetarsone N.N.R.) in 8 hens each were ineffective in varying doses by mouth in causing a cessation or decrease in the intensity of the discharge of oocysts of the organisms noted. These compounds failed to influence in any way the symptoms of the disease in the hens treated. Carbon tetrachloride administered by mouth in varying doses to 17 naturally infested hens was likewise without effect.

Tetrachlorethylene in doses of 1 cc. daily for 5, 7, and 12 days respectively in 3 infested hens had no effect. In daily doses of 2 cc. the drug caused a pronounced decrease in the intensity of discharge of all the oocysts involved within 5 days after treatment was inaugurated in the 4 hens studied. In doses of 2 cc. twice daily for 4 days the drug was also effective in reducing the intensity of the discharge of the oocysts. Tetrachlorethylene, however, when given to hens over a period of time causes characteristic lesions of the intestinal tract with pronounced symptoms and may even cause death.

Methyl violet at a dosage of 0.2 gm. twice daily for 2 days, while stopping the discharge of oocysts in the 3 hens studied, caused no improvement in the condition of the birds and, in fact, resulted in death 4 days after treatment was instituted. At postmortem examination very few oocysts were found in the intestinal tract of these hens.

An emulsion of lactic acid in agar, mineral oil, and water (furnished by the Kelp-ol Laboratories, Los Angeles) has been found to render the feces of certain animals more acid.[1] Such an emulsion

[1] Kessel, J. F., PROC. SOC. EXP. BIOL. AND MED., 1929, **27**, 113.

lowers the pH of the feces of hens from a range of 7.1 to 6.4 to a range of 6.1 to 5.3, depending on the dosage and the period of time over which it is given. In 9 infested hens to which the emulsion was given for a period of time sufficient to cause a similar lowering of the pH of the feces, a complete cessation of the discharge of oocysts was noted in 5 cases and a reduction in the intensity of the oocysts discharge was observed in the other 4.

Summary. Lowering of fecal pH, in hens naturally infested with *Eimeria,* by means of an emulsion of lactic acid in agar, mineral oil, and water has been found to be more satisfactory in reducing or stopping oocyst discharge than the administration of various drugs, including carbon tetrachloride, tetrachlorethylene, methyl violet, acetarsone, and diphenylamine.

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Oral Toxicity of Certain Alkyl Resorcinols in Guinea Pigs and Rabbits.*

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Two alkyl resorcinols have recently been discussed in relation to the treatment of certain parasitic infestations: Lamson *et al*[1] suggesting hexylresorcinol in ascariasis and uncinariasis, and Faust[2] and Ratcliffe[3] proposing heptylresorcinol ("di-hydranol") particularly in amebiasis. We believe that clinical trial of new drugs in man may proceed with greater satisfaction than otherwise, if it is made after a critical study of the toxicity of such agents in various genera of mammals for the purpose of reaching an approximate quantitative estimate of the *toxic range* of the materials, and of determining what pathological effects for which it may be expedient

* Part of a cooperative study of the chemotherapy of amebiasis conducted by the Pacific Institute of Tropical Medicine of the Hooper Foundation for Medical Research and the Pharmacological Laboratory of the University of California Medical School, San Francisco, and supported in part by Eli Lilly and Co., Indianapolis, and the Ciba Co., Inc., New York City.

[1] Lamson, P. D., Wood, C. B., and Brown, H. W., PROC. SOC. EXP. BIOL. AND MED., 1930, **27**, 1017; Lamson, P. D., Brown, H. W., Ward, C. B., Robbins, B. H., *Ibid.*, 1930, **28**, 191.

[2] Faust, E. C., PROC. SOC. EXP. BIOL. AND MED., 1930 **27**, 905.

[3] Ratcliffe, H. L., *J. Parasit.*, 1930, **17**, 113.