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Some Physiological Properties of a New Tri-Atomic Alcohol from the Urine of Pregnant Women.

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A study of the responses of female mice, rats, guinea pigs and rabbits to the enteral and subcutaneous administration of the new triol¹ has given interesting data. Using rats 17-23 days of age it was found that minute quantities administered either subcutaneously or by stomach tube caused opening of the vagina in from 2 to 10 days. Vaginal smears made twice daily showed that cornification generally began on the third day following; the cornified cells persisted from 2 to 5 days. Animals sacrificed at the time leucocytes began to appear showed either large follicles or corpora lutea and sometimes both. That the new triol acts in the absence of the ovary is proved by the administration to ovariectomized rats 21-22 days of age. Opening of the vagina occurred in 2 to 7 days with the subsequent appearance of cornified cells in the smears.

Although our experiments are still incomplete our evidence indicates that if the amount required to produce opening of the vagina of 21 day old animals be regarded as a unit, the rat unit weighs 0.10 γ or less and the mouse unit 0.004 γ (1 γ = 0.001 mg.).

Dr. W. D. Collier is making microscopic studies of our injected animals.

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Effect of Glucosamine and of Glycollic Acid on Detoxication of Sodium Benzoate in Rats.

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Survival and growth of young rats on diets containing sodium benzoate are possible only if the diets furnish a supply of glycine, or of a precursor, adequate for the detoxication of the benzoate and for

¹ Doisy, E. A., Thayer, S. A., Levin, L., Curtis, J. M., *PROC. SOC. EXP. BIOL. AND MED.*, 1930, **28**, 88.

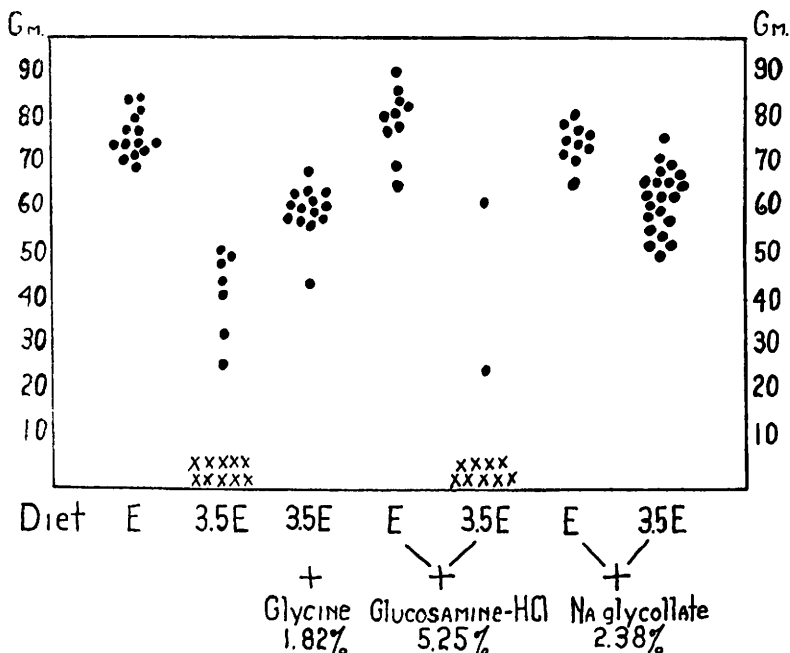


CHART 1.

Increase in weight of young male rats during a 40-day experimental period on diets containing sodium benzoate. The per cent of sodium benzoate added to the basal diet, E, is indicated by the number preceding the letter E. The food intake was restricted, each rat receiving the same quantity of food of equivalent calorific value (975 calories). Rats were kept in raised cages. Deaths during the experimental period are represented by X.

the formation of new tissue proteins. Previous experiments have demonstrated that the injurious effects of toxic benzoate diets disappear if glycine is added to the diets.¹ On the basis that readily available precursors of glycine might show a protective action similar to that of glycine, a search is being made for such precursors. Results of experiments with glucosamine and glycollic acid are reported in this paper.

Quantities of these compounds, equivalent to the benzoate concentration in the experimental diets, were found to be non-toxic when added to the basal diet. (Chart 1.) No change in the degree of survival or in the rate of growth resulted from the addition of neutralized glucosamine hydrochloride to the toxic benzoate diet. On the other hand, the addition of sodium glycollate to the toxic benzoate diet afforded practically the same protection as that furnished by glycine itself. These experiments are being continued in order to determine whether glycollic acid is actually a precursor of glycine in the animal body.

¹ Griffith, W. H., *J. Biol. Chem.*, 1930, **85**, 751.