

The E-deficient diet used in the studies of Holmes and Pigott, and in those reported here, should afford an ample supply of vitamin B₁ for the mother and offspring. It is also of interest to note that this neuromuscular disorder first came to the attention of Evans and Burr² when they had put into effect their observations that the vitamin B requirements of the rat are greatly increased during lactation. In fact, with increasingly larger proportions of yeast in their diets there was a corresponding increment in the number of young reared, in the average weight at weaning, and in the number of rats showing paralysis.

Conclusions. It is concluded that, contrary to the claims of other investigators,¹ oral administration of vitamin B₁ (thiamin hydrochloride) supplemented by force feeding is ineffective in preventing or in curing the paralysis in suckling rats attributable to an insufficiency of vitamin E.

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Failure to Find Sodium Pregnanediol Glucuronide in Bull's Urine.

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The discovery by Marker, Wittle and Lawson¹ of large amounts of pregnanediols in bull's urine was made in extracts of the hydrolyzed urine. Also, though the paper of Marker and Hartman² appears to refer to presence of pregnanediol glucuronide in pregnant cow's, pregnant mare's and bull's urine, examination of the papers they cite in this connection reveals no reference to actual demonstration of the presence of pregnanediols conjugated as glucuronide.

The value given by Marker, *et al.*,¹ for the average amount per gallon of pregnanediol 3 α , 20 α in bull's urine is 100 mg. Dividing this by Venning's³ factor 0.597, one finds that this is equivalent to

¹ Marker, R. E., Wittle, E. L., and Lawson, E. J., *J. Am. Chem. Soc.*, 1938, **60**, 2931.

² Marker, R. E., and Hartman, C. G., *J. Biol. Chem.*, 1940, **133**, 529.

³ Venning, E. H., *J. Biol. Chem.*, 1937, **119**, 473; 1938, **126**, 595.

167 mg sodium pregnanediol glucuronidate per gallon, an amount well within the range of estimation by the Venning³ procedure. We therefore applied this technic to urine samples obtained from the bladders of 4 freshly slaughtered bulls and 2 steers, the volumes being 1360, 840, 320, 300, 480, and 1060 cc respectively. Each urine was promptly extracted with butanol, and run through the usual method as for human urine.³ The extracted urine, the extracted 0.1 N NaOH and washings, were pooled and set aside for hydrolysis.

The steer urine appeared to be greatly dilute compared to that of the bulls.

On evaporation of the second butanol extracts under reduced pressure, white material was noted, but on the usual precipitation from 5 cc water and 95 cc anhydrous acetone no precipitate was obtained except in one case, where on reprecipitation and weighing, 3.7 mg of material melting instantaneously at 167° was found. The acetone solutions were evaporated and those of the 4 bulls pooled. These combined residues (from 2820 cc of bull's urine) weighed 1.2 g and contained an easily sublimed white material, but none of the easily recognizable sodium pregnanediol glucuronidate.

Summary. No sodium pregnanediol glucuronidate was found in urine obtained from the bladders of slaughtered bulls and steers by the method of Venning.³ The volumes of urine were judged sufficient for demonstration of this substance if it were present in the amount suggested by Marker's results for pregnanediol 3 α , 20 α from hydrolyzed bull's urine.

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Bactericidal Property of Blood Serum of Male Rabbits Treated with Urinary Estrogens.

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There is clinical and experimental evidence of a definite relationship between hormones and immunity to infection. The early work on the effect of the suprarenal glands on resistance to disease was reviewed by Perla and Marmorston.^{1, 2} The effect of insulin on

¹ Perla, D., and Marmorston, J., *Arch. Path.*, 1933, **16**, 379.

² Perla, D., *Proc. Soc. Exp. Biol. and Med.*, 1934-35, **32**, 797.