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Adrenalin Reaction in Pregnancy and in the Preeclamptic State.

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Variations from the normal physiological response to adrenalin injection, described by Canon and others, have been recorded by many authors. Goetsch[1] demonstrated that in hyperthyroid individuals the response to injection of 0.5 cc. of adrenalin was abnormal, *viz.*, blood pressure rose 10 to 50 points, excessive increase in pulse rate, in respiratory rate, and a rise in the number of leukocytes. Eppinger and Hess[2] found a hyperirritability to adrenalin in some cases of diabetes mellitus. Eppinger, Falta and Rudinger[3] found thyroidectomized dogs and cretins remarkably tolerant to adrenalin when this tolerance was measured by the glycosuric response, while Hare and Karn[4] found women in pregnancy to be less reactive to adrenalin injection than normal women. Louros[5] noted that if the pregnant individual were in eclampsia or preeclamptic state, with an abnormally high blood pressure, that the reaction to adrenalin was entirely reversed.

To repeat Louros' tests on the physiological response of pregnant women in preeclamptic toxemia to adrenalin injection, 1 cc. of adrenalin was given to each of 5 women and their blood pressure, pulse, and respiration noted over the subsequent 2-hour period. All of these women were between the seventh and ninth month of pregnancy, none of them had a blood pressure of over 200, and none of them had had convulsions. They all had a moderate amount of albumen in the urine. After injection and during the period of observation they experienced no excitement or nervousness and felt none of the flushing and stimulation described by normal patients and to a greater degree by those with hyperthyroidism. They uniformly said that they subjectively felt better after than before injection. The blood pressure curves of one normal pregnant woman and 5 women with preeclamptic toxemia are shown below.

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[1] Goetsch, Emil, *New York State J. Med.*, 1918, **18**, 259.

[2] Eppinger, H., and Hess, L., *Z. f. Klin. Med.*, 1909, **67**, 345.

[3] Eppinger, H., Falta, W., and Rudinger, C., *Z. f. Klin. Med.*, 1908, **66**, 1.

[4] Hare, D. C., and Karn, M. N., *Quart. J. Med.*, 1929, **22**, 381.

[5] von Louros, Dr. Nicholas, *Zentralblatt für Gynakologie*, 1923, **47**, 1667.

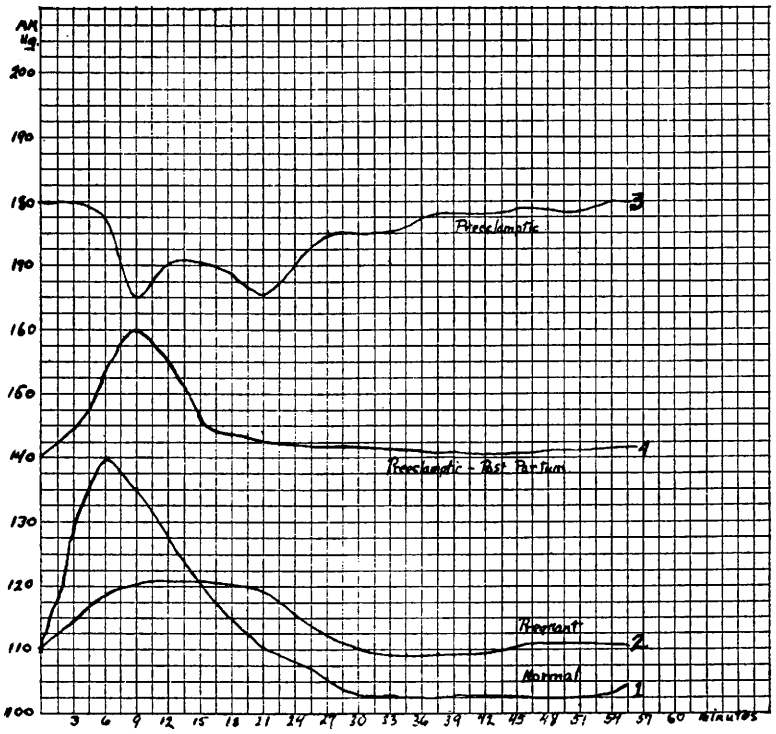

FIG. 1.

Curve 1 shows the normal physiological response to the injection of 1 cc. of 1-1000 adrenalin hydrocyanide hypodermically.

Curve 2 shows a diminished reaction in pregnancy.

Curve 3 is a composite curve of five preeclamptic toxemic women showing a reversed adrenalin reaction.

Curve 4 shows the reaction of a preeclamptic female 6 weeks post partum. The blood pressure is still elevated but the curve has returned to normal.

Conclusion. Women with preeclamptic toxemia show an exaggerated reverse curve when given subcutaneous adrenalin injection.

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Relation of Milk Ingestion to Calcium Metabolism in Children.

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Calcium, phosphorus and nitrogen retention studies comprising 46 metabolism periods with 8 children between 3 and 5 years of age lead to the conclusion that a pint of milk, furnishing 75% of the