

ter having but one kidney. No. 6977 was also mated with No. 6514 (a sib of 6513 having but one kidney). Their offspring constitute litter Nos. 9953 to 9957 inclusive. Three of the five animals have in each instance but one kidney.

The results so far obtained have shown that the kidney abnormality may be greatly increased in the experimental stock by breeding from animals heterozygous for this condition. Genetic experiments are now under way to determine the inheritance of the kidney abnormality by out-crossing with normal unrelated stock.

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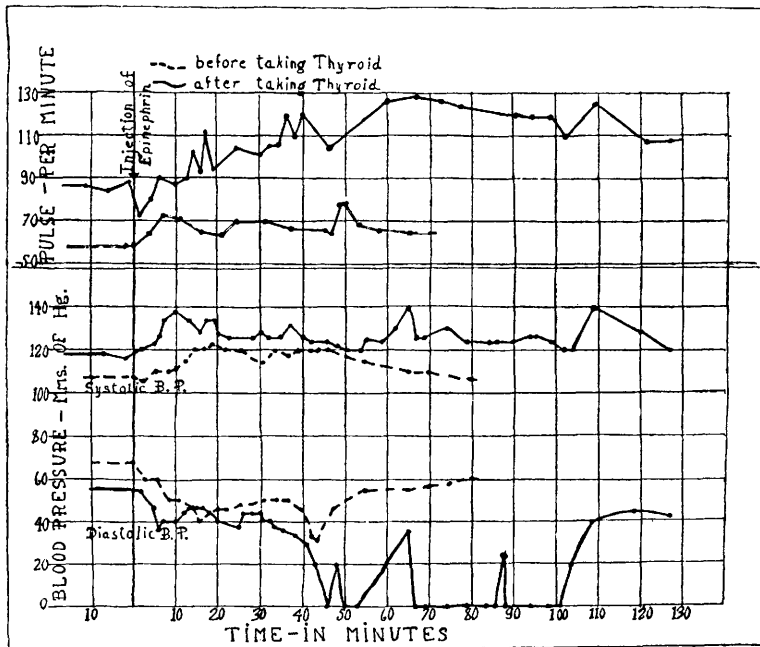
An unusual sensitizing action of thyroid substance on the effect of epinephrin in man.

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During a study on the behavior of the autonomic nervous system in man, the following observation was made:

A woman 27 years old, suffering from hypothyroidism received epinephrin, 0.015 mg. per kilogram of body weight (total 1.16 mg.) (tablets of Parke, Davis and Company) solution 1:1000, subcutaneously. The systolic and diastolic blood pressure and the pulse rate were recorded for 95 minutes following the injection. Readings were made at intervals averaging three minutes. The chart shows that there was only a slight rise (max. 12 mm.) in the systolic and a relatively marked fall (max. 34 mm.) in the diastolic blood pressure. The pulse rate showed a maximum increase of 22 beats per min. The patient felt comfortable during and following the test except for a slight tremor lasting a few minutes.



Following the injection of epinephrin the patient took an average of 0.8 gm. (14 gr.) of dessicated thyroid substance (Burroughs, Wellcome Tablets) daily for seven weeks (47 gm. or 780 gr., total). During the last three weeks the patient experienced occasional tremor of the fingers, perspiration, a sensation of warmth and was excitable. She lost 11½ pounds in weight in the last four weeks of the thyroid administration.

The basal metabolism (Miss L.) was 87.5 per cent with respiratory quotient 0.803 before taking thyroid, and 109 per cent with respiratory quotient 0.769 following the administration of the substance.

After the thyroid substance had been taken, the epinephrin test described above, was repeated, with the same dose and the same sample of tablets. The result of the second test was rather surprising. As the chart shows, while the systolic blood pressure showed a marked rise (max. 22 mm.) which persisted longer than before, the diastolic blood pressure fell to zero. A typical Corrigan pulse developed and there was a distinctly visible capillary pulsation over the forehead. There was also a greater increase in the pulse rate (max. increase of 40 beats per minute);

and this increase was more persistent than in the first test. The heart beat was irregular with numerous extra-systoles. Corresponding to the marked change in the physical signs, there was also a marked disturbance in the subjective sensations of the patient following the administration of the thyroid substance. She developed marked trembling of the back, alternating with choreiform movements of the shoulders. These movements occasionally attained the severity of mild convulsions, which could be suppressed by the patient only by the utmost exercise of the will. These disturbances disappeared with the return of the blood pressure to normal, while the heart rate returned to normal later.

This clinical experiment suggests that large doses of thyroid substance caused sensitization toward the effects of epinephrin in such a way that, while the systolic blood pressure showed a greater and more persistent rise after the administration of thyroid than before, due to a constriction of the peripheral arteries and arterioles, the diastolic blood pressure fell to zero with the development of a capillary pulse, due, probably, to a dilation of the capillary system.

One may conclude, therefore, that following the administration of these large doses of thyroid substance, the dilator action of epinephrin on the capillary system was apparently antagonistic to its constrictor action on the peripheral arteries and arterioles.

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**Intracardiac irradiation of the valves from radium emanation,
employing a two-stage operative technique.**

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In mitral stenosis there is indicated, on theoretical grounds, some form of intervention designed to dilate the narrowed orifice and thereby relieve the functional embarrassment of the heart. In advanced cases such relief must come through an