

and since only anatomically intact glands exhibit this characteristic, and since kidneys and spleens perfused under similar conditions do not take up iodine, we believe one may conclude that the surviving thyroid cells in vitro exhibit the same specific biological affinity for iodine as is manifested by the thyroid cells in vivo.

80 (1012)

The clinical actions of veratrum.

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The object of this study was to ascertain more definitely the effects produced by veratrum in normal and diseased human individuals, with special reference to the circulatory system. Many of the studies reported in the literature lack definite objective data, and whatever data exist need the confirmation of the improved and more modern methods of observation. Pharmacologically, the effects of veratrum are well understood, and the drug is prompt and effective. On the other hand, the reported clinical results are contradictory, and the drug is variously reported as uncertain, ineffective or too "toxic." However, there is reason to believe that the circulatory effects obtained in patients may resemble the pharmacological and that veratrum might be useful as a therapeutic measure for certain circulatory conditions.

In all eight individuals were studied. Of these six were convalescent and their circulations were clinically judged to be about normal. Two were cases of hypertonus. The patients always rested in the horizontal position in bed on the days when the pulse rate and blood pressure were taken. The pulse was taken for half a minute at the time of the first dose of veratrum and at intervals of fifteen minutes until the effects of the drug were pronounced. The blood pressure was taken by the auscultatory method before the administration of the drug and again when the pulse rate had reached a minimum. Certain of the cases walked around when the pulse rate reached its minimum with no effect upon the rate. The preparation used was the 10 per cent. tincture

from *Veratrum album*. Each dose was given in one to three glasses of water, and usually no gastric irritation resulted. However, all patients complained of fullness and throbbing in the head when the pulse rate reached its minimum. The following conclusions appeared to be justified from the data thus far obtained.

1. The therapeutically effective dose of the tincture of veratrum album for adults ranges from 30 to 75 minims (administered in doses of 10 to 15 minims, an hour apart).

2. Clinically, the effects of veratrum resemble the pharmacological, and consist of a slowing of the pulse rate amounting to 12 to 42 beats per minute and a fall of systolic blood pressure amounting to about 39 mm.; of the diastolic 32 mm. The two hypertonus cases showed an average systolic fall of 49 mm.; of diastolic 8.5 mm.

3. The circulatory effects produced by veratrum take place independently of the "toxic" symptoms, such as nausea and vomiting.

81 (1013)

The effect of phlorhizin on tumors in animals.

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In 1914 Benedict and Lewis¹ reported the cure of malignant tumors in rats by the induction of glycosuria by phlorhizin. During the past few months similar experiments have been carried on in the laboratory of the Crocker Fund, using the same tumor—Buffalo rat sarcoma—and a progressively growing, highly malignant mouse carcinoma. In addition, seven mice bearing spontaneous tumors have been treated. The treated animals were kept on a diet of meat and lard, as in the experiments of Benedict and Lewis. The rats received subcutaneously 0.003 gram phlorhizin in olive oil, and the mice 0.001 gram, at two or three day intervals; and the collected urines were examined frequently at the end of the second or third day after injection, and found to give positive Fehling reaction.

¹ PROC. SOC. EXPER. BIOL. AND MED., 1914, XI, 134.