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The absorption of phenolsulphonephthalein from the subarachnoid space in diseases of the central nervous system.

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(by invitation).

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Dandy and Blackfan have shown that the injection of phenolsulphonephthalein into the subarachnoid space in man is harmless and in normal individuals appears in the urine in from six to ten minutes. They also found in certain cases of hydrocephalus that there is a delay in the excretion of the dye. So far as we know no determinations have been made of this delay in other pathological conditions.

A series of sixty-one patients, mostly with nervous diseases, received injections of phenolsulphonephthalein after lumbar puncture and the appearance time of the dye in the urine was observed. These cases may be divided roughly into four groups, as follows:

I. Thirteen cases in which there was neither physical nor spinal fluid evidence of central nervous disease, nor symptoms suggesting organic nervous lesions. Appearance time was from four to fourteen minutes—eleven appeared in ten minutes or under—averaging nine minutes.

II. Five cases with neither physical nor laboratory findings positive, but with definite symptoms suggesting organic nervous disease, as follows: Two patients having positive blood Wassermanns and symptoms of paresthesias, pain and mental disturbance, one patient with aphasia, one with pains, nervousness, and loss of sexual power, and one with dizziness and paresthesia. Appearance time was from thirteen to forty minutes, averaging thirty minutes.

III. Twelve cases having positive physical findings, but with negative spinal fluids except for an occasional increase in pressure. Appearance time fifteen to seventy minutes, averaging thirty-nine minutes.

IV. Thirty-one cases having both physical and laboratory evidence of central nervous system disease. Appearance time fourteen to eighty minutes, averaging forty-six minutes.

In a general way, delay in excretion ran parallel to the severity of the clinical symptoms, but the quantity eliminated has appeared to be more variable. The method may prove of value in detecting instances of organic central nervous system disease in which the ordinary spinal fluid findings are negative, and since the absorption from the subarachnoid space is believed to be through the blood vessels the delays observed may serve to indicate the degree of vascular change.

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Analysis of the anaphylactic reaction by means of the isolated anaphylactic lung.

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Analyses of the anaphylactic and immune reactions by means of perfusion experiments with the isolated guinea-pig lung show that we are here concerned with three essential physiological factors:

(a) *Cellular Anaphylaxis* or the anaphylactic response of the hypersensitive fixed pulmonary tissues,

(b) *Humoral Anaphylaxis*, or the chemical reactions (anaphylotoxin formation) with the anaphylactic blood elements.

(c) *Humoral Immunity*, or the inhibiting and protective action of the immune blood elements.

In the 14-day anaphylactic guinea-pig, the fatal bronchial spasm is due in part to cellular hypersensitiveness, in part to humoral anaphylaxis.

In the 4-week anaphylactic guinea-pig, the humoral reaction is always very slight and usually absent. The cellular hypersensitiveness, however, is usually greater than that of the 14-day anaphylactic guinea-pig. The fatal bronchial spasm in the 4-week anaphylactic guinea pig is usually due solely to the cellular hypersensitiveness.