

Races React Differently to Drug

Physiology

If the doctor asks, "What race do you belong to?" it may not be one of those unimportant questions. It might make a difference in the treatment prescribed. That this is the case in epilepsy was reported by Dr. John Notkin and three associates from the New York Post-Graduate Medical School and Hospital, to the American Psychiatric Association.

Italian and Hebrew patients are used to large amounts of salt in their food. When they were given sodium bromide, a sedative, to ward off epileptic convulsions, Dr. Notkin found that special care had to be taken that the bromide did not reduce the salt concentration in their blood too low. Anglo-Saxons who ordinarily eat less salt could stand higher doses of this drug without reducing the salt concentration in their bodies to a hazardous extent.

Bromide has been largely discarded

in treating epileptic patients because of its undesirable effects on the body chemistry. The investigations at the Manhattan State Hospital indicate that if the dose is adapted to the patient's nationality and to his individual body chemistry, the undesirable effects can be averted.

"The effect of bromide on the body chemistry is not yet fully understood," Dr. Notkin said. "It seems reasonable to suggest that the antispasmodic influence of the drug is due to the decrease of the irritability of the nerve cell."

Sixty-five cases given the bromide treatment were described by Dr. Notkin, who said that the number of attacks of convulsions was greatly reduced and in many instances epileptics have had no seizures for a year or longer.

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Sex is Factor in Mice Cancer

Pathology

In support of his hope that biological researches, particularly those involving hereditary studies, eventually will help reveal the nature of the causative agent of cancer, Dr. Clarence C. Little, president of the University of Michigan and director of the laboratory of mammalian genetics, has announced that the appearance of cancer has been influenced by surgical transplantations in otherwise immune mice.

"Cancer of the breast is known to be inherited in one of the laboratory strains of these animals," Dr. Little said. "It occurs in more than 90 per cent. of the breeding females which live to be 18 months old. It does not occur in the brothers of these cancerous females. Why is this so?"

To answer the question, Dr. William S. Murray of the laboratory staff made extensive investigations at Dr. Little's suggestion. Some 200 male mice of the particular strain were made "neutral" as regards sex

by removing their male glands when they were only a few weeks old. The operated animals remained non-cancerous. Apparently, the absence of male sex glands was not sufficient to induce cancer to develop.

Then taking another group of 200 male mice so "neutralized", he placed under the skin of each the ovary from one of their sisters, which, he pointed out, were cancerous nine times out of ten. The transplanted ovarian tissue persisted and grew under the skin of a number of the operated males. In 37 of these mice cancer of the breast occurred.

Thus, it seems that some ovarian secretion is one of the causative factors in the formation of cancer of the breast in this particular stock of mice. While of only limited significance as a single series of experiments, the research opens a new method of attack upon the problem of cancer, Dr. Little said.

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Young Trees Nod To Sun

Botany

On a bright warm day in early spring, when the young evergreens are sending forth long, slender, candle-like shoots of fresh green, one who looks closely may note that the topmost shoot and that on each of the upper branches bend toward the sun. Like living compasses, as the day advances, they follow the course of the sun from east to west. If the day is sunless and windy the shoots bend into the wind, changing their direction if the wind shifts to a new quarter. On a cloudy day with no strong wind they stand erect.

The reason for this remarkable behavior of the young evergreen shoots is an uneven tension within the rapidly growing stem. On the side that for the moment is more exposed to the sun or wind the tender tissues are losing a disproportionate amount of water, and consequently are shrinking. On the less exposed side the tiny growing cells are swollen with the water constantly fed to them from the tree's roots. Hence the shoot leans in the direction of its drier, less expanded, half, just as a man with a pain in one side leans toward that side.

As the sun swings across the sky, or as the wind shifts, the pucker moves from one set of cells to another, and the shoot bows its head in a new direction and then still another.

The hemlocks and pines, and other evergreens of rapid growth display this oddity more often than slow-growing species with stout heavy leaders, such as the spruces. In the latter, evaporation from the stem is usually retarded by a greater thickness of the bark. In any case, it is only a few weeks before the most rapid growth is over and the bark of the slender, fast-growing tips thickens so that evaporation is greatly reduced. Then the tips assume their common spire-like position, and one must await another spring to see the new shoots again bowing their greeting to sun and wind.

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