

MEDICINE

Mental Crippling of Polio

Data from autopsies reveal that hypothalamus is damaged by bulbar poliomyelitis attack, making adjustment to stress of life difficult for surviving patients.

► PATIENTS WHO survive bulbar poliomyelitis may be left with a kind of emotional and nervous crippling that makes them unable to stand the "moderate stress of everyday life."

Studies showing this are reported by Drs. A. B. Baker, Sam Cornwell and Ian A. Brown of the University of Minnesota Medical School, Minneapolis.

Bulbar polio was once greatly dreaded because it was so often fatal. About a fourth of the cases in the current outbreak are bulbar cases, according to the National Foundation for Infantile Paralysis. In recent years medical scientists have learned more about how to fight this type of infantile paralysis and many more patients are surviving the acute illness and returning home.

"However," the Minnesota doctors state, "many of these patients, although apparently recovered and comfortable in the protected environment of the hospital, encounter considerable difficulty when exposed to even the moderate stress of everyday life. The slightest physical exertion, the routine environmental infections or even mild daily excitements and problems precipitate many untoward physical discom-

forts which indicate an instability of nervous system function."

Changes in emotional behavior which have been noticed in these recovered bulbar polio patients have usually been put down to the patient's reaction "to such an acute and threatening illness," the Minnesota doctors point out.

But their studies of fatal cases of bulbar polio show that the hypothalamus, located at the base of the brain, suffered various degrees of damages. When the functioning of this part of the central nervous system is disturbed or harmed, blood pressure, digestive function, starch, sugar and fat utilization, body temperature, sleep, sex functions and emotional responses may be disturbed.

Following the study of the autopsy material, the Minnesota doctors gave 12 recovering bulbar polio patients five tests for the adaptability of the hypothalamus under stress. Abnormal response was found in two to six patients for each of the tests.

Their studies were aided by a grant from the National Foundation for Infantile Paralysis and are reported in detail in the *Archives of Neurology and Psychiatry* (July).

Science News Letter, August 30, 1952

VETERINARY MEDICINE

X-Disease of Cattle

► THE REDUCTION or entire elimination of X-disease, or hyperkeratosis, in cattle may be possible on many farms if cattle are kept away from tractors, combines, bulldozers and other farm machinery where they might consume grease or oil.

Research conducted by 17 State Agricultural Experiment Stations cooperating with the U. S. Department of Agriculture led to the advice to keep cattle away from used crank case oil, old oil drums and similar containers. Drainage from around grease racks and in farm machinery sheds should not be allowed to contaminate lots or pastures to which cattle have access.

The scientists agreed that cattle may become affected with X-disease by exposure to or taking into the digestive tract highly chlorinated naphthalenes contained in certain lubricants, or by unknown toxic ingredients in feedstuffs. Research workers at the experiment stations have been able to produce the disease experimentally by giving the suspected feeds under controlled feeding tests.

The disease has also been produced with

particular batches of processed concentrates, roofing asphalt and timothy hay from one particular field.

Research results were discussed at a meeting of experiment station representatives and the U. S. Department of Agriculture at the University of Tennessee, Agricultural Experiment Station, Knoxville. Research is being continued to investigate other possible causes of X-disease and products that might contain toxic chemicals. Attempts will be made to develop methods of prevention and control.

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ENGINEERING

Dam to Generate More Power for Southwest

► DAVIS DAM, a 200-foot-high structure situated 65 miles below Hoover Dam, now has five water-driven electricity generators that can turn out 225,000 kilowatts at the flick of a switch.

Described at a meeting of the American

Institute of Electrical Engineers in Phoenix, Ariz., by S. M. Denton and H. O. Britt, both of the U. S. Bureau of Reclamation at Denver, the dam is tied in with the existing electrical network in the Southwest. It can add from 800 million to one billion kilowatt-hours annually to the present electrical capacity of that area.

The dam also helps to conserve water of the lower Colorado River. Its giant reservoir is capable of absorbing "chunks" of water released at Hoover Dam but which are not needed at that time for irrigation purposes farther down the river.

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