MEDICINE-ENTOMOLOGY

Check Sleeping Sickness

➤ SCIENTISTS at last may have the range in their fight against encephalitis, popularly known as sleeping sickness.

For several years a group of University of California scientists have made Kern county, a dry, hot valley area in the southern part of California, a virtual laboratory for the intensive study of this disease which is so much like infantile paralysis.

They now report that the disease has virtually vanished from the area, at least for the time being. There is a possibility that the disease is just playing 'possum, as epidemic ailments are wont to do.

But there has certainly been a dramatic drop in the cases of encephalitis diagnoses in Kern county since a vigorous mosquito control program was started three years ago by local authorities as a result of the scientists' findings.

Only one human case of encephalitis was diagnosed last season. There were eight cases in 1947, and 15 in 1946. Before that there were many more, some reliable estimates indicating that as many as 1,000 cases occurred in the California valleys in one season.

There has also been an enormous drop in the incidence of encephalitis in chickens, a reservoir of the disease, since the advent of mosquito control. Before mosquito control, the scientists regularly found that 25% to 30% of the chickens of the area were infected. But now encephalitis is found in only about 2% of chickens.

These developments lend weight to the concept of the encephalitis cycle worked out by Dr. W. McD. Hammon, epidemiologist of the Hooper Foundation. Dr. Hammon found strong evidence that the mosquito was the culprit in the transmission of the virus from fowl to horses and man.

Several years must elapse before it is certain that mosquito control measures are responsible for the virtual disappearance of the disease, Dr. Hammon said.

In the meantime a team of scientists is on the scene in Kern county, studying the habits of birds and mosquitoes, collecting blood samples for analysis in the San Francisco laboratory. Cooperating in the continuing study are the Kern County Health Department, the National Foundation for Infantile Paralysis, the U. S. Public Health Service, the U. S. Army Virus and Rickettsial Disease Commission, and the State Department of Public Health.

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MEDICINE

Virus Disease Conquests

➤ SUCCESSFUL conquest of more of the deadly virus diseases by mold drugs such as aureomycin was predicted by Dr. Benjamin M. Duggar, microbiologist of the Lederle Laboratories, Pearl River, N. Y.

Dr. Duggar, the discoverer of aureomycin, made his prediction when he spoke as guest of Watson Davis, director of Science Service, on Adventures in Science, heard over the Columbia network.

Aureomycin itself, the golden-yellow drug from an earth mold, recently surprised its discoverer and other scientists by proving successful in routing the much larger than virus size germs of amebic dysentery from the bodies of victims of this rather widespread disease. (*See SNL,* June 25, p. 403).

Previously it had shown itself effective against such small germs as the viruses of primary atypical, or virus, pneumonia, lymphogranuloma, psittacosis, or parrot fever, and herpes zoster or shingles. It has given dramatic results in Rocky Mountain spotted fever and Q fever and has proved effective in experimental typhus fever.

Whooping cough, undulant fever, or brucellosis, tularemia, certain blood infections and venereal diseases, a form of mastitis in cattle which is a source of severe throat infections in man, and a heart infection which often ends fatally are other diseases in which this mold drug has been used with success.

Although aureomycin is a new drug, first used on humans only a year ago, Dr. Duggar said it is "no doubt old in nature's storehouse of surprises."

Early drugs used against disease, such as quinine and the Indian arrow poison, curare, are the products of green seed-bearing plants, Dr. Duggar pointed out.

"With the newer antibiotic drugs, the lowly fungi are assuming dominance as objects of research in the field of natural drugs useful against infections" he said. "It is not that the molds are becoming more magnanimous. It is merely that we are becoming better acquainted with their potential magnanimity.

"A living world without molds would be vast in confusion, vast in rubbish, since fungi are the best scavengers of the tremendous annual tonnage of waste organic matter of field, forest, garden, and even the soil. The fungi must then be numbered among the converters of the dead and the discarded, restoring nature, by preparing for renewed production. Incidentally, among the many by-products of their growth activities are the antibiotics."

Describing the search for new drugs from molds or fungi, he said:

"Taking the soil sample is often a mere matter of a knife and a cellophane envelope, or better, of a trowel and a pocket ointment tin, or an icecream cup. On the other hand, a thorough survey requires careful planning and systematic sampling.

"Exacting laboratory procedures must then be so adapted that representative molds are isolated from every sample. Surprising things may turn up on the isolation plates, and not infrequently a good antibiotic-producing mold may be spotted by the way that it affects the growth of neighboring bacterial and mold colonies, while not being itself pushed around. Each isolate that is selected from the isolation plate is cultured separately in a test tube, each is a pure culture, each is a potential—starter—for comparative work to follow later."

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MEDICINE

Heat Dangerous After Nerve-Cutting Operation

➤ PATIENTS who have had a nerve-cutting opeartion for relief of high blood pressure should be especially careful to keep cool with fans, cooling baths and any other possible means during heat waves.

This warning, which applies particularly to patients who have recently had the operation, is apparent from a report to the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (July 9).

The report is by Drs. Jameson L. Chassin and J. William Hinton of New York University-Bellevue Medical Center. It concerns two patients who had had the operation and developed high fever, like that of heat stroke, during last August's heat wave in New York City.

Both patients had had extensive nerve-cutting operations which abolished the sweating mechanism. In both cases the operation had been performed only a short time before the heat wave struck. One was still in the hospital recovering from the operation.

Cold packs, a cold oxygen tent, electric fans and similar cooling measures helped these two patients recover.

The doctors find it surprising that this heat reaction does not occur oftener in patients who have had the extensive nerve-cutting operation, termed thoracolumbar sympathectomy. Although Dr. Hinton has performed it on over 500 patients, only one other case of such a reaction has come to their attention.

They believe that once a "readjustment period" of three months or longer has passed after the operation, the sweating mechanism returns in some areas via nerve pathways that have not been completely affected by the operation. This may account for the rarity of heat reactions in operated patients, but also points to the need for care during the first months after the operation.

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