

MEDICINE

Radioactive Germs Made

Radioactive penicillin is also being prepared to trace bacterial action in the body. Material must be flown to laboratories because of short life.

► RADIOACTIVE disease germs and radio-active penicillin, the mold chemical that stops many of them, are being created in the National Institute of Health laboratories of the U. S. Public Health Service in Washington.

This is one reason for the flying atoms which, along with flying saucers, have been worrying airline pilots lately. The radioactive chemicals are being flown to Washington and to other laboratories from the atom bomb pile at Oak Ridge, Tenn., where they are made. The short half-lives of the radioactive chemicals require speedy transportation.

Atoms of radioactive phosphorus, potassium and other chemicals, however, are securely sealed in containers which will not let any of them escape *en route*, Atomic Energy Commission officials declared.

They delivered the thousandth shipment from Oak Ridge to Dr. Kenneth M. Endicott, U. S. Public Health Service. Except for the fact that it was the thousandth shipment from Oak Ridge, its arrival would have been part of routine operations for American Airlines' Knoxville to Washington flight. Other airlines operating out of Knoxville (Capital and Delta) have also been flying shipments of radioactive chemicals.

The radioactive germs and penicillin are being prepared so that scientists can trace both germs and their mold chem-

ical enemy through the body. How the body's own germ-fighting forces, technically termed immune mechanisms, act is one problem that may be solved through these studies.

The radioactive penicillin will go to the Public Health Service's venereal disease laboratory at the Staten Island Marine Hospital where penicillin was first discovered to be a remedy for syphilis. Radiopenicillin was produced by putting radiosulfur into the material on which the penicillin-producing mold is grown. It will not be used to treat disease but to give further information on how much penicillin is in the blood, how fast it is excreted from the body, whether some organs store more than others, and similar facts.

Knowledge of this sort, needed to determine proper dosages, has so far been gained from chemical methods that took much time to work out. With radiopenicillin and the possibility of making streptomycin and other antibiotics radioactive, scientists hope to gain such knowledge much more quickly in the future.

Radioactive potassium gives engineers a new tool for checking ventilation. It is being used at the National Institute of Health to check the ventilating system which is the main defense of men and women working with dangerous disease germs in the new infectious disease building.

Science News Letter, July 19, 1947

MEDICINE

Streptomycin for Plague

► STREPTOMYCIN and DDT, two of modern medicine's most powerful disease fighters, may help stop the outbreak of plague in Palestine, reported "definitely alarming" medical authorities there.

Plague victims are already getting streptomycin, if latest medical reports on this chemical from a mold have reached Palestine physicians. That report, said Dr. Karl Meyer, University of California epidemiologist, showed that streptomycin controlled pneumonic plague in 90% of mice.

"There is every reason to believe streptomycin will be equally effective in man if given early in the attack of plague," he stated.

Pneumonic plague is the most deadly form of the disease. It is caused by the same germs, however, as the bubonic plague reported in Palestine. And streptomycin stops the germs.

Substantial amounts of streptomycin have been exported to Palestine every month, license applications at the Office of International Trade show. So doctors there will be able to use it.

Plague germs are carried from rats to man or from human patients to other humans by fleas. DDT will kill the fleas, just as it killed lice to stop the typhus fever epidemic in Naples when our troops first occupied that city during the war.

Killing the rats, standard plague-fighting procedure, will be more easily and effectively accomplished by two potent rat-killers developed during the war. These are Antu and 1080. The latter is used only by professional rat-killers. The former can be used by householders.

Before the discovery of streptomycin, sulfadiazine was used to check plague in China.

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