

MEDICINE

Penicillin Is Potent

Studies confined to diseases likely to hit armed forces and to those resistant to sulfa drugs find the mold-drug a remarkable germ fighter.

➤ A "REMARKABLY POTENT" germ fighter is the verdict on penicillin reported by the National Research Council's Committee on Chemotherapeutic and Other Agents after a study of 500 cases treated with the new chemical from mold (*Journal, American Medical Association*, Aug. 28).

Since only small amounts of penicillin were available for the clinical tests, it was necessary to limit both the number of patients treated and the types of infection studied. The 22 groups of investigators accredited by the National Research Council Committee were directed to study those infections that are most likely to occur in the armed forces and to those that are resistant to the sulfa drugs.

Particularly striking were the results of treatment on gonorrheal infections that sulfa drugs had been unable to put to rout.

"Here, then," the report states, "is a most potent weapon in the treatment of sulfonamide-resistant gonorrhea, and it is not too much to predict that penicillin will prove to be one of the most effective agents in the treatment of a disease that causes great ineffectiveness in the armed forces and in the civilian population."

Patients with pneumococcal pneumonia frequently recovered following a three-day course of treatment, an especially important achievement where the infection has resisted the sulfa drugs.

In treating 55 patients with osteomyelitis, a disabling inflammation of the bone and marrow, 48 recovered or improved and 7 showed no effect. Lesions that had been present for months or years healed completely in two to three weeks. But in some cases the lesions recurred after a time and the scientists warn that it is too early to judge the final outcome of the cases treated.

Summarizing the results of the study, the committee reports penicillin to be most effective in fighting staphylococcal, gonococcal, pneumococcal and hemolytic streptococcus infections.

It has failed disappointingly in treating bacterial endocarditis, an inflamma-

tory infection of a membrane lining the heart.

Dosage of the new drug varied tremendously from case to case due to the limited supply of the drug and because little is known about the best dosage for some conditions.

The drug can be administered by injection into the veins, muscles or applied locally to a particular spot. It has proved ineffective when given by mouth. Since the drug is excreted so rapidly, injections must be continuous or at intervals of a few hours to obtain an adequate amount of potent material in the blood and tissues.

Toxic or poisonous effects, which sometimes occur in treatments with many drugs, were rare. Itching skin eruptions, called urticaria, occurred in 14 cases treated; their cause remains obscure. Fleeting attacks of headache, flushing of the face, muscle pains and other effects observed in some cases were evidently due to toxic substances in the drug carried over from a purifying process. These were removed by filtering and recent lots of penicillin have not caused these reactions.

Clinical results were collected and summarized for the medical profession by Dr. Chester S. Keefer of Boston, on behalf of the National Research Council's Committee on Medical Research, and the Committee on Chemotherapeutic and Other Agents which also includes Dr. Francis G. Blake of New Haven, Conn.; Dr. E. Kennerly Marshall, Jr., of Baltimore; Dr. John S. Lockwood of Philadelphia and Dr. W. Barry Wood, Jr., of Baltimore.

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GENERAL SCIENCE

Cabbage Odor to Warn Mine Workers of Danger

➤ SMELL rotten cabbage? It may be an emergency if you are down in a metal mine. In a report to mine owners, the U. S. Bureau of Mines recommends use of the chemical ethyl mercaptan, which has such a stench, as the most effective method of warning mine workers to return to the surface.

The foul-smelling chemical is easily obtainable, relatively cheap and non-poisonous even in heavy concentrations. Other odorous chemicals also may be used for this purpose.

Warning odors transmitted by compressed-air lines have been used by some mines for years as danger signals and have proved effective in disasters, particularly mine fires.

"Every mine using compressed air underground should install such a device and keep it ready for prompt operation," the report states. "It is cheap insurance and a real safety measure that may save many lives."

"Metal mines often are very deep, and the men must work on numerous levels out of direct communication with the surface. In many instances they cannot be warned quickly of an emergency or mine fire by telephone or other usual methods of communication."

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INVENTION — Ordinarily an unfortunate accident, the short circuit has been put to work through the ingenuity of Dr. E. F. W. Alexander and other General Electric engineers. The amplidyne which he is holding consists of a short circuit with a coil arrangement known as a compensating field winding. It makes possible delicate control of powerful electric machinery in war plants and on battle fronts.