

MEDICINE

Possible Cancer Weapon

Hope that impurities, possibly lecithin and lithium, in penicillin may be effective against this dread disease arises from laboratory tests.

► A CLUE to what may, and scientists hope will, become a weapon against cancer has been turned up in studies of penicillin. The latest of these studies are reported by Dr. Margaret Reed Lewis, of the Wistar Institute of Anatomy and Biology (*Science*, Oct. 6).

Penicillin itself, effective remedy for many germ-caused diseases, is not the anti-cancer weapon, but certain impurities that accidentally got into one lot of penicillin may be. Last March Dr. Ivor Cornman, now Corporal Cornman, found that a preparation of penicillin killed mouse and rat bone cancer cells growing in culture tubes outside the body. Non-cancerous cells were unharmed.

Subsequent tests by Mrs. Lewis, with whom Cpl. Cornman worked before induction into the Army, and by Dr. George O. Gey, of the Johns Hopkins Hospital and Medical School, showed that penicillin is not the anti-cancer weapon. Highly purified preparations of

penicillin, including those now being prepared for treatment of patients with germ diseases, have no damaging effect on either cancerous or noncancerous cells, these scientists found.

Tumor cells, however, were killed and normal cells unharmed, Mrs. Lewis now reports, when treated with certain dosages of a yellow sodium salt of penicillin. Apparently this preparation contains some substance that is lost in the highly purified penicillin preparations. Mrs. Lewis suspects that this substance, which may be the one that damaged the rat cancer cells, is either lecithin or lithium. She is starting tests now to check this point.

Lecithin is a compound found in egg yolk and nerve tissue as well as other animal tissues. Lithium is a white metal, the lightest of all metals. In the form of various salts, lithium has had some medical use.

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BAYEUX TAPESTRY—Protected by officials of the Louvre during German occupation, the famous cloth, which depicts the invasion of England by William of Normandy in 1066, is examined by an *attache* of the Louvre (left), Mr. Verrier, Inspector General of French Historical Monuments, and M. Jaujard, Director of the National Museums of France.

PUBLIC HEALTH

Typhus Likely Abroad

It is predicted that this coming winter will bring new outbreaks of this fever among foreign armies and civilians. We have effective weapons, however.

► THIS COMING winter will probably bring new outbreaks of typhus fever among both armies and civilians abroad, Dr. F. C. Bishopp, assistant chief of the Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, predicted at the meeting of the American Public Health Association in New York.

With our present defensive weapons against typhus fever, however, our own military forces are not likely to suffer seriously, nor does Dr. Bishopp see any valid reason for widespread outbreaks of the disease among civilians.

These weapons consist of typhus vaccine developed by the U. S. Public Health Service; DDT, discovered abroad but developed for military use by Dr. Bishopp's own bureau; and methyl bro-

meide, another potent insecticide developed by Department of Agriculture scientists.

The last one has proved especially useful for delousing prisoners of war. It completely kills all lice and eggs in 45 minutes of treatment. A special fumigating bag or chamber is used for infected material.

Lice that carry deadly typhus fever germs are only one of the insects that threaten armies with disease. Others are the mosquitoes that carry malaria and filariasis; the mites which carry germs of scrub typhus or Japanese river fever, a disease found in the southwest Pacific and north into Japan; and flies which contaminate food with germs of typhoid fever and dysentery.

DDT is a powerful weapon against

both mosquitoes and flies. When available in sufficient quantities it will doubtless assist greatly in reducing food contamination from flies of all kinds, Dr. Bishopp stated. He pointed out that while our soldiers are protected by inoculation against typhoid fever, there is no such protection against dysentery and that blowflies are frequently abundant in areas previously held by the Japs. They emanate from the bodies of the enemy dead, from exposed enemy food supplies and from their unsanitary camps.

Soldiers who have seen for themselves how DDT aerosol bombs rout mosquitoes will demand these same bombs for ridding their homes of these pests after the war, Dr. Bishopp predicted. If methods of application and equipment can be perfected for using DDT in large scale operations against mosquito breeding places, it may play a part in eradicating malaria from the United States after the war, he declared.

Postwar use of DDT against lice to eradicate louse-borne typhus fever and relapsing fever throughout the world is seen by him as a "practical and highly desirable" program. (*Turn to next page*)