

## MEDICINE

# Human Trials of Chemical For Tuberculosis Succeed

**Promin, Distant Relative of Sulfa Drugs, Cannot Yet Be Called a Cure, But Lungs Were Nearly Healed**

**H**OPE for a chemical conquest of tuberculosis is encouraged by successful results in treatment of 13 tuberculous patients with Promin.

Promin, a distant relative of the sulfa drugs, cannot yet be called a cure for tuberculosis. But the 13 patients showed definite signs of improvement within two months after getting this new treatment and X-ray pictures showed the diseased areas of the lungs were nearly or entirely healed within four to six months, Dr. H. Corwin Hinshaw, Dr. Karl Pfuetze and Dr. William H. Feldman, of the Mayo Clinic and Foundation, reported at the meeting of the National Tuberculosis Association in Philadelphia.

The 13 patients were in the early stages of tuberculosis with sputum being coughed from the lungs but no extensive destruction or degeneration of the lungs. They had the kind of lung condition which often heals spontaneously without chemical treatment, the doctors emphasized. The number of patients is too small to be sure that Promin was responsible for the healing. They conclude, however, that further trial on patients of Promin and related drugs of the sulfone series seems justified.

Altogether, 106 patients have been given Promin, following the successful use of this chemical in treatment of human tuberculous infection in guinea pigs. A special study was made of 36 patients with tuberculosis of the lungs whose lungs had not been collapsed and who had been under treatment for from four to twelve months.

The most favorable results were observed on "exudative pulmonary lesions of recent origin without extensive destruction of tissue and without marked fibrosis," the Mayo Clinic doctors reported. These were the 13 patients who showed such rapid signs of improvement.

Cavities in the lungs closed in more than 10 patients and tuberculosis germs apparently disappeared from the sputum of 11 patients. Fever declined significantly in 10 of the 18 patients.

On the unfavorable side, the doctors

reported one patient developed a new and progressive lesion and four patients in the group died, three being obviously in the last hopeless stage of the disease before the treatment was started.

"Six cases of tuberculous meningitis have been treated, two in early phases of the disease, but all have died," the report continued. "No striking effects were noted in four patients with renal tuberculosis, but observations are incomplete. Tuberculous sinuses have closed during treatment in four instances, but not enough time has elapsed to know if they will reopen.

"The drug is potentially toxic (poisonous) in larger doses, usually producing anemia. Dosage must be regulated carefully to avoid serious degrees of blood destruction. One case of non-fatal agranulocytosis has been observed and a few instances of transient leukopenia. Patients have complained of headache, restlessness, anorexia (loss of appetite) and malaise of mild to moderate severity.

"Long-standing cases of chronic tuberculosis, those with extensive tissue destruction, terminal stages of the disease, and tuberculosis meningitis have shown little or no tendency to improve. Trial of chemotherapy should be discouraged in such instances."

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## DENTISTRY

**Fluorine Swabbed on Teeth Cuts Down Tooth Decay**

**H**OPE of preventing tooth decay by swabbing a chemical solution on the teeth appears in a report by Dr. Virgil D. Cheyne, of the Indiana University School of Dentistry (*Journal, American Dental Association*).

The solution is potassium fluoride. Drinking water that contains fluorides causes the ugly condition of mottled enamel, but even a small amount of fluorides in the water, it has been discovered, prevents tooth decay. However, this effect, it was formerly believed, depended on the fluorides getting into the

teeth via the drinking water at a very early age, while the teeth are being formed in the jaws. Recent experiments by other scientists suggested that the fluorides might get into the teeth enamel after the teeth had erupted.

Dr. Cheyne swabbed a potassium fluoride solution every three months or so on the "baby" teeth of 27 four- to six-year-old children from the underprivileged sections of Indianapolis. All the children had decayed teeth at the start of the experiment.

One year later these children and 19 others with the same economic and dental status were reexamined. These 19 untreated children had developed almost twice as much new tooth decay as the 27 treated children.

Further tests on more children over a longer period of time will be needed for final evaluation of the method, but the results so far point to a new method of attacking the widespread problem of tooth decay.

*Science News Letter, May 16, 1942*



### GIANT AMONG FUNGI

*Fungi are usually thought of as small things, and evanescent, but occasionally a giant appears among them, more or less durable. Here is a huge puffball (*Calvatia gigantea*) that was found at Edmonton, Alberta, by Prof. E. H. Moss of the University of Alberta. It was 13 inches high, 14 inches in diameter and four feet in circumference, and it had survived the buffetings of a severe Canadian prairie winter. Contemplating the monster growth is Prof. A. H. R. Buller of the University of Manitoba.*