

MEDICINE

Streptomycin Results Good

Hundreds of lives saved in first year's experimental use in treatment of tuberculosis. Not good for pulmonary type, which is most common.

► A YEAR'S experimentation with streptomycin therapy in tuberculosis has produced some "remarkable" results at Battey State hospital in Rome, Ga. The 650 patients treated are believed to constitute the largest group of tuberculosis patients to take the earthmold drug at any sanatorium in the United States.

"There is no doubt that streptomycin has saved and prolonged hundreds of lives," Dr. Rufus F. Payne, superintendent of the hospital, reported.

Of the 650 started on treatment, 523 have finished. Only 28 died. Of these, 26 were considered hopeless—the drug was given to relieve pain—so only two of these deaths represent failures of streptomycin.

But here is even more convincing evidence: Of the 523 patients treated, 106 have been discharged from the hospital, 90 of them improved, only 16 unimproved. Of the 106, doctors called 101 "far advanced" cases when the treatment was started.

And finally: 32 of those discharged, and now living normal lives at home, had been considered "absolutely hopeless" when admitted to the hospital!

Here are some of the facts established in the study:

1. The "new lesion" is the one which responds best.

2. The "biggest disappointment" is that the most common type of tuberculosis, pulmonary, shows the least response to the drug. Fortunately, Dr. Payne pointed out, there are other treatments for lung tuberculosis.

3. The "nicest thing" about streptomycin is that it works best on the types of cases for which doctors have never had any specific treatment.

4. This study has determined that half a gram per day is the best dose. Previously, one gram or 1.8 grams was the usual dosage. The patient is much less likely to become resistant at the lower dose, Dr. Payne said.

One of the most dramatic responses to streptomycin therapy has been miliary tuberculosis. This is a form spread by the blood stream into every organ of

the body. Normally, it's 100% fatal. Dr. Payne has tried it in about 25 cases, with apparent cures in more than three-fourths of them.

Meningitis is another complication bringing certain death. Thirteen cases have been treated at Battey, and seven of them are living. Two have survived more than a year, and are clinically well.

Kidney tuberculosis is one of the most painful forms. Surgery was the only treatment. Now streptomycin has been found to relieve the pain in at least 90% of the cases. It is hoped that 50% or more will experience permanent results.

Almost "miraculous" is the way Dr. Payne described the response in tuberculous laryngitis, another extremely painful form.

"Patients have been enabled to talk in normal tones, even though they had not spoken except in a whisper for three years," he said. "We have other patients who have not been able to swallow small

amounts of water. Within three weeks after they started taking streptomycin, they were eating a normal diet, completely free of pain."

Of the 650 patients treated so far, 388 have received their streptomycin without cost, thanks to a fund raised last year by public subscription. The appeal was made entirely through the newspapers, without one penny being spent for campaign expenses. The goal was \$75,000, but Georgains contributed \$111,815.

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RADAR

Two-Color Screens For Radar Scanners

► TWO-COLOR viewing screens, for use with radar scanning equipment to control aircraft traffic approaching airports, were revealed at the opening of the new 300-foot aluminum-sheathed tower for microwave experiments at Federal Telecommunication Laboratories, in Nutley, N. J.

An improved radar device to measure distances from moving planes to fixed ground beacons was also revealed. These are but two of important achievements here at the laboratories. The first is part of a navigation system being developed under contract with the Watson Laboratories of the Air Materiel Command, Red Bank, N. J. The second



TWO-COLOR RADAR—One of the projects being experimented with in this microwave laboratory tower at Nutley, N. J.

is part of the laboratory's work on a series of pulsed type radio aids to aerial navigation.

The two-color radar viewing screen aids control-tower operators to "see" better the airplanes in the 50-mile region surrounding the airport. The rotating antenna of this particular radar-scanner makes a complete revolution every second, turning from six to ten times more rapidly than older types. The result is that the detection and tracking of moving planes is made visually clearer.

The distance measuring equipment is an airborne radar device which provides constant and accurate measurement of distances from moving planes to fixed ground radio-responding beacons. It uses the so-called challenger-responder principle. Both the airborne challenger and the ground beacon have a pulsed transmitter and a receiver. The pulse sent out from the plane is received at the ground beacon and causes its transmitter to respond with a similar pulse. The distance is given on a dial in the plane computed automatically from the time required for the pulse to make its trip.

The new microwave laboratory tower resembles somewhat a lighthouse with a building on its top instead of the glass housing for the signal lights. It has a rigid steel frame which is sheathed in aluminum. At the top are three large enclosed landings for research purposes and several interior platforms for the installation of experimental microwave equipment.

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PHARMACY

Pain-Killing Drug To Be Available

► PATIENTS racked by chronic pain from causes other than cancer may soon have a new pain-killing drug to relieve their suffering.

The drug is metopon, an opium derivative which was released just a year ago for cancer patients only. A plan is now being considered for extending its distribution to other chronic pain sufferers, H. J. Anslinger, U. S. Commissioner of Narcotics, told the New York Academy of Sciences conference on analgesics.

If the new plan goes into effect, metopon will be available in drug stores on a physician's prescription. Its production and distribution, however, will still be subject to the Federal narcotic drug laws.

Science News Letter, May 29, 1948

PSYCHIATRY

Psychotics Have Defect

Blocking occurs between glands and central nervous system which is shown by blood tests made under stress. Changes occur in brain.

► MENTAL PATIENTS have a defect which blocks messages between the brain and nervous system and the glandular system in their bodies, a team of Washington University medical scientists reported to the American Psychiatric Association meeting in Washington. This may throw light on the fundamental nature of mental illness.

The scientists are Drs. Ernest H. Parsons, Ethel Ronzoni-Bishop, Sidney Hulbert and Edwin F. Gildea.

Counts of white blood cells and measurements of blood sugar gave the clue to existence of this defect. Unlike normal persons, the mental patients do not mobilize the sugar in their body in response to mental stress. Nor do they show the change in number of white blood cells shown in normal persons under stress.

The failures to show these measurable physical responses to mental stress were not due to defects of pituitary or adrenal glands, the scientists stated. Rather, they were due to a blocking of the communication system between the brain and nervous system and the glands that ordinarily respond to stress messages from the brain and nerves.

Changes in Brain

Definite changes in the brain, seen under the microscope, exist in the important mental disease labelled schizophrenia, Dr. N. W. Winkelman of Philadelphia and Dr. M. Harold Book of Norristown, Pa., declared.

Schizophrenia has sometimes been called a disease of split personality. Psychiatrists describe the patients as living in a dream world where they have sought escape from harsh reality.

Drs. Winkelman and Book, on the basis of their findings in 10 cases, contend that the disease should be classified as an organic rather than a personality disorder.

Where the disease exists under 40 years of age, they believe the changes in the brain cells are usually due to a biological susceptibility similar to the disposition of some bodies to tuberculosis. The early brain changes are slight and

similar ones have been found in the brains of normal people. This, the doctors believe, is what has led to psychiatrists' differing views on schizophrenia.

The situation, they pointed out, can be compared roughly to an automobile which develops a knock in the motor. The driver may think this merely an unusual noise but to the mechanic it is evidence of a burnt-out bearing.

Original Sin

The "original sin" which preachers and philosophers have talked about for centuries and for which they prescribed the antidote of love is probably a feeling of hostility, or hate, present in human infants months before they are born, the meeting was told.

Dr. J. C. N. Cushing of Baltimore offered this explanation. He told of seeing definite avoiding reactions in fetuses only 14 weeks old, or about six months before birth. The reactions were seen in moving picture studies of fetuses.

The avoiding reactions, he said, would be interpreted as hostile gestures in older individuals. They are evidence that hate, or hostility, is so primary an emotion that it has its genesis even before birth.

By the time the baby is born, it has stored up so much hostility, or hate, that for the rest of life it is faced with the problem which forces it constantly to seek affection to counterbalance the latent hostility.

Scare Stories Don't Harm

The "sensational press" is probably not doing any special harm to children and may even help some, Dr. Sophie W. Schroeder-Sloman, Chicago psychiatrist, declared.

Nervous, insecure children might actually be helped if reading crime stories in the newspapers made their nervousness so much worse that their parents finally noticed it and took them to a psychiatrist or mental health clinic. They needed such help anyway, but might not have gotten it if their anxiety and fears had not been aggravated to