MEDICINE

Penicillin Mist

Inhalations of very fine particles of the mold substance tried on patients with lung diseases such as pneumonia and bronchiectasis.

➤ A NEW METHOD of giving penicillin treatments which may be more effective in lung diseases such as pneumonia and bronchiectasis is being tried on patients at Huntington Memorial Hospital in New York. The method consists in having the patient inhale a mist of very fine particles of penicillin.

Tuberculosis might be treated by the same method, using a mist of promin or some other drug effective against tubercle bacilli instead of penicillin.

The method was developed by Dr. Vernon Bryson, at the Long Island Biological Laboratory. Treatment of the patients is under the direction of Dr. Edwin Grace, of Brooklyn.

First patient treated was a discharged Marine who had a lung infection. Poison from this "putrid, foul lung" had apparently reached his brain, causing symptoms of mental disease which kept him in a mental hospital for nine months. At this time the penicillin inhalation treatment was given. It did not by itself cure him, probably because the infection had gone on too long. But it did clear up the infection to the point where an operation could safely be performed. The operation consisted in removal of the lung. Since then the man has been getting well. His mental condition cleared up and he has left the hospital.

Penicillin inhalations given to a woman with bronchiectasis within 10 days reduced the amount of sputum she coughed up each day from an ounce and a half or two ounces to a teaspoonful. This striking improvement did not last, the amount of sputum increasing to about half its former level. However, she is "50% better than she was," Dr. Grace said.

The value of the mist inhalation method of giving penicillin or other drugs for lung diseases lies in the fact that it gets the drug directly to the site of the infection, Dr. Bryson explained in a report at a Huntington Hospital staff meeting. Studies with mice and rabbits have shown this.

The treatment is particularly suited to chronic lung infections in which areas of fibrous tissue have developed. These areas have relatively little blood supply and are more or less walled off from the rest of the lung. Consequently penicillin or other drugs injected into the muscles or blood stream may not reach the site of infection in sufficient quantity to do any good.

The inhalation treatment is given with a nebulizer, which is a special kind of atomizer with a glass baffle. Compressed air or oxygen is used to force the penicillin solution against the glass baffle hard enough to break it up into very small particles. The particles are so small it would take 25,000 of them laid side by side to make one inch. Unless the particles are this small they will not get down deep into the lungs where the infection is. The size of the particles may be varied according to the size of the structure in the lungs where the infection is.

When taking the treatment, the patient is instructed to take a deep breath of the mist from the nebulizer and then to hold the breath as long as possible. Then another deep breath, and so on. Masks are not efficient for the treatment, since too much penicillin is wasted.

Science News Letter, November 4, 1944

GENERAL SCIENCE

Medical Research Teams To Study Explosion

➤ TEAMS of medical scientists have been sent to Cleveland by the Committee on Medical Research of the Office of Scientific Research and Development to obtain information on surviving victims of the gas explosion and fire disaster that killed 150 persons and injured 200.

Their first objective is to find whether a scientific study of the injured would be profitable for learning new facts about blast injuries and burns and for developing better methods of treating such conditions which are both a war and peacetime medical problem.

Dr. Joseph T. Wearn, professor of medicine at Western Reserve University School of Medicine, Cleveland, and chief of the division of physiology of the Committee on Medical Research, personally went into the situation very carefully immediately after the disaster. On his arrival in Washington to confer with other committee members, it was decided to send teams of scientists to Cleveland to carry on in his absence.

The blast effects were very serious, Dr. Wearn said. All the victims were either killed or escaped with very slight burns, mostly the flash burn variety. Only about eight or 10 survivors with serious burns are now in hospitals. A number of persons are still unaccounted for, having been in the heart of the explosion area and presumably killed by blast or fire.

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