SCIENCE NEWS

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PENICILLIN AND HEART DISEASE

PATIENTS with the kind of heart disease known as subacute bacterial endocarditis, heretofore almost always fatal, should be treated with penicillin if the heart ailment is due to a streptococcus sensitive to the drug.

This advice is given to the medical profession in a report by Dr. Martin Henry Dawson and Dr. Thomas H. Hunter, of the Presbyterian Hospital and Columbia University College of Physicians and Surgeons, New York, in the *Journal* of the American Medical Association.

It is based on apparent success of the treatment in fifteen out of twenty patients. These patients are in excellent health, free of all signs of the infection that caused their heart trouble, and all but three are back at work, housekeeping, or whatever their former occupations were. They might be called "cured" except for the fact that the period since the treatment was stopped is only a matter of months and in a chronic disease such as this more time is needed to be sure the germs causing the trouble have really been defeated.

Of the other five patients, two relapsed as soon as treatment was stopped, but they are in excellent general condition and it is hoped that they will yet be cured. The other three patients died. In two cases the infection was still present at the time of death and in the third the situation was doubtful.

Since the report on the twenty patients was written, seven more have been treated. Of these, six are well and one relapsed and is now getting additional treatment.

Drs. Dawson and Hunter first used penicillin to treat subacute bacterial endocarditis in 1942 and 1943. The results were encouraging but because supplies of penicillin were then so limited, only two got enough to make recoveries. Another two have since been treated with larger doses combined with the anti-blood-clot chemical, heparin, and they also have now recovered. The fifth died of stoppage of a blood vessel in the brain, but the post mortem examination showed "substantial healing" of the heart condition.

Besides giving much more penicillin to the patients treated during the past year, heparin was also used. The combination of penicillin and heparin was first tried by Dr. Leo Loewe and associates at the Jewish Hospital, Brooklyn, N. Y.

They tried heparin, with good results, because the germs that cause subacute bacterial endocarditis grow on the lining membranes of the heart in clumps mixed with fibrin from the blood. Buried in these clumps or clots, the germs are protected from chemical remedies circulating in the blood. Heparin counteracts the tendency of the blood to form clots in which the germs can grow safely and so should make the germs more vulnerable to attack by penicillin.

Drs. Dawson and Hunter found, however, that in five cases they got as good results without heparin as with it in other cases when large doses of penicillin were used. Giving this drug by continuous drip into the muscles instead of into the veins or by repeated injections into the muscles keeps more of it in the blood and is more comfortable for the patient, as well as simpler when penicillin must be given over prolonged periods.

ITEMS

A NEW laboratory for improved physical and chemical utilization of wood and its products was officially opened in Washington on January 9. The Teco-Shop Laboratory of the Timber Engineering Company is appropriately located in the middle of a wooded area on the outskirts of the city. Hosts for the day were C. A. Rishell, director of research, and Harry Uhl, president of the Timber Engineering Company. The laboratory is composed of two divisions. Dr. Eduard Farber is in charge of the chemical division, which has already made advances in the study of the utilization of lignin, partner of cellulose in wood, but all too frequently regarded as a waste product. J. L. Sterns heads the physical department where soft grades of wood are made hard under impregnation.

THAT streptomycin, one of the newest of the germ-against-germ medical weapons, can exert a "striking suppressive effect" on tuberculosis in guinea pigs, is reported by Dr. W. H. Feldman and Dr. H. C. Hinshaw, of the Mayo Foundation and Clinic. What effect it might have in suppressing tuberculosis is not stated. Streptomycin, which is obtained from a bacillus that lives in earth, was discovered by Dr. Selman A. Waksman, Dr. Albert Schatz and Dr. Elizabeth Bugie, of Rutgers University and the New Jersey Agricultural Experiment Station. They found it a powerful weapon against tuberculosis germs in test-tube experiments and suggested the guinea-pig trials to the Mayo group, which has been investigating the anti-tuberculosis action of other new antibacterial substances. Streptomycin does not have any toxic effect on guinea pigs. Doses of human tuberculosis germs that caused widespread and destructive infection in the bodies of untreated guinea pigs caused hardly any detectable signs of disease in the animals that got daily doses of streptomycin.

THE importance of proper lubrication in machines of all types, from tiny wrist watches to giant locomotives, and in gigantic war aircraft operating through desert dust and stratosphere cold, is now recognized to such an extent by technicians and chemists that a national organization has been formed with headquarters in Chicago, and the first technical meeting is planned for February 8 and 9. The new association is known as the American Society of Lubrication Engineers. The objective of the association "is to put on a sound basis the fundamental precepts of lubrication," which it is believed will be of benefit to all phases of industry with their related problems. The society will also attempt to promote the training of lubrication engineers in engineering schools. C. E. Pritchard, Republic Steel Company, is president of the society, and B. H. Jennings, professor of mechanical engineering at Northwestern University, is secretary and treasurer.