

MEDICINE

Antibiotics Still Effective

The problem of whether or not antibiotics are causing the development of resistant strains of bacteria is being argued pro and con by scientists and medical doctors.

► SCIENTISTS who claim bacteria are becoming more resistant to antibiotics will have to prove it, Drs. Burton A. Waisbren and Carl Stelitzer, Milwaukee County General Hospital, Milwaukee, Wis., told the Fifth Annual Antibiotics Symposium meeting in Washington.

They reported on a five-year study of ten different antibiotics used in 500 patients with staphylococci infections. The results showed that the bacteria have not become more resistant to the drugs.

Staphylococci are the pus-forming bacteria that cause carbuncles and wound infections and may lead to serious blood infections. They are of particular concern to hospitals.

In 1953, 60 pounds of the antibiotics were used in the Milwaukee hospital and in 1956 the amount had increased to 116 pounds. Yet the resistance of the bacteria did not vary significantly in either year, the scientists reported.

"The burden of proof still rests with those who postulate that antibiotic usage has had a profound effect on the world of bacteria," they added.

Two factors which may change the resistance, however, are geographical location and weather conditions. The rapid change in the present Asian influenza virus came

about without a known influence by man; possibly the same thing is happening to staphylococci in regard to their penicillin resistance.

Hospitals are having more trouble with staphylococci infections because their patients are more susceptible to infections. This is believed to be due both to their ages and to the illnesses which modern medicine is prolonging.

Bad Penicillin Reactions

► SERIOUS REACTIONS to the wonder drug penicillin are increasing every year, Dr. Henry Welch, U. S. Food and Drug Administration, told the antibiotics symposium.

A nation-wide survey, the first of its kind, has been carried out since 1953 to study reactions to the principal antibiotics and penicillin has been shown to be the most dangerous.

Over 3,000 case histories of severe reactions were collected from hospitals and private physicians. One-third of them were classified as life-threatening and the other two-thirds as not life-threatening.

Most of the life-threatening ones followed

the use of penicillin and included severe shock, infections and skin reactions.

The number of penicillin reactions is still small considering that millions of persons receive the drug and it has saved tens of thousands of lives, Dr. Welch pointed out.

But the increasing number of serious ones, especially from intramuscular injection of the drug, shows there should be a clear-cut need for it before it is given, he added.

The survey also showed the so-called broad spectrum antibiotics are relatively safe from bad reactions. These drugs, which include the antibiotics Aureomycin and Terramycin, are effective against many different types of bacteria.

Other scientists reported on the immediate use of the enzyme penicillinase to stop bad penicillin reactions.

Penicillinase inactivates the penicillin that is still in the body by breaking it down chemically.

The drug should be on hand in every doctor's office and hospital to help prevent fatal shock, Dr. R. M. Becker, Madison, Wis., told the symposium.

If it were given within 24 to 48 hours after the reaction started, there would probably not be the 200 to 300 deaths from penicillin predicted for this year, he said.

Science News Letter, October 12, 1957

GENERAL SCIENCE

Japanese Teachers See Science Fair Exhibits

► SCIENCE TEACHERS in Japan found that the general level of science education in American high schools is higher than they thought it would be.

The teachers, along with the public, got an idea of the American high school student's scientific abilities by viewing seven projects brought to Japan from the United States.

The American exhibits had originally been shown at the Eighth National Science Fair in Los Angeles. (See SNL, May 25, p. 326.) They were selected by a Japanese delegation at the American event for showing throughout Japan.

Looking over a fossil collection made by a Kansas high school boy, a prominent Japanese geology professor was heard to comment, it is "better than most of our university students can classify."

The seven lively exhibits were shown in Tokyo in Yomiuri Hall of the Yomiuri Shimbun newspapers which are sponsoring a science fair and awarding science prizes. The Japanese science effort has been modeled after that administered by SCIENCE SERVICE in the United States, which has cooperated with the Japanese in starting their program. (See p. 233.)

Dr. Motoichi Tada, who was a guest at the Eighth National Science Fair, described what he had seen at Los Angeles to those who visited the exhibit hall.

After the Japanese Science Awards are announced on Nov. 3, the seven American exhibits, together with about 100 Japanese exhibits, will be shown again at the Mitsukoshi department store in Tokyo and then shown in Osaka, Nagoya and Hokkaido.

Science News Letter, October 12, 1957



AMERICAN SCIENCE IN JAPAN—Japanese students and teachers, together with the public, view one of the exhibits selected from the Eighth National Science Fair.