MEDICINE

Digestive Enzyme Fights Infections Caused from TB

➤ A METHOD that offers hope of curing more than half the patients who get empyema from tuberculosis or other infections was reported by Drs. Howard G. Reiser, L. C. Roettig and George E. Curtis of Ohio State University College of Medicine at the meeting in Boston of the American College of Surgeons.

The method makes use of one of the digestive enzymes, trypsin. When a solution of this chemical, marketed under the brand name Tryptar, is used to wash out the chest the thick pus becomes watery thin, and germs and particles of matter disappear within a few days.

In the small series of patients so far treated with the trypsin method, three needed no other treatment and in the others, the chest cavities were sterilized and less radical operations were needed than usual in this condition.

Science News Letter, November 4, 1950

GENERAL SCIENCE

Women in Homes Get Chance at $200 Award

➤ WOMEN in their homes will be given, for the first time this year, a chance to win a $200 award for research work done in their own home.

The award will go to the woman who submits the best paper describing original research carried out within her house. It will be presented at the Cleveland meeting of the American Association for the Advancement of Science in December. Sigma Delta Epsilon, graduate women's scientific fraternity, is granting the award.

Besides this new award, Sigma Delta Epsilon also offers an annual $1,600 fellowship to graduate women scientists and a $500 award for outstanding research work by a member of the fraternity.

Science News Letter, November 4, 1950

MEDICINE

Mass Blood Typing Not Advised for Atomic Defense

➤ DON'T start mass blood typing of the entire population now as preparation for atomic or other large scale disaster.

This, in effect, is the answer given by Dr. Leonard A. Scheele, Surgeon General of the U. S. Public Health Service, to State and Territorial Health Officers meeting in Washington and to communities throughout the nation who have been asking what to do about blood typing.

The only preparedness typing that should be done now is among those persons between the ages of 18 and 60 years who can give blood now for storage and who can be called on in an emergency as donors.

The need is to find among such persons those donors who have type O blood. That is the so-called universal type which can be given with least risk to any patient regardless of his own blood type.

Dr. Scheele's statement, he said, represents the best thinking of governmental agencies and professional societies on blood typing for civilian defense. Any mass typing at this time, he pointed out, should be undertaken "as a calculated risk and as a test of the method's effectiveness."

Reasons against mass blood typing of the whole population now are: 1. the drain on manpower and supplies of typing serum; 2. the danger of errors made by hastily trained personnel; 3. the fact that plasma and such plasma substitutes as salt water drinks, which require no typing, will be used during the immediate emergency period of a large scale disaster.

When the victims reach the hospitals, their blood can be quickly typed and cross-matched with donor blood if the victims need whole blood tranfusions.

Science News Letter, November 4, 1950

DENTISTRY

Drop One High Sugar Diet Item to Prevent Caries

➤ THE ELIMINATION of a single high sugar "habit" item from the diet—such as chewing gum, ice cream, jam or candy—often is sufficient to prevent the formation of cavities in the teeth.

This is reported by Dr. Herman Becks, professor of dental medicine in the University of California College of Dentistry, who recently completed a ten-year study of the relationship between sugar in the diet and dental caries.

The overall study supports earlier reports on the survey which indicate that caries development can be inhibited by reducing sugar consumption. The results are based upon observation of 1542 individuals, about half of whom were observed between 1938 and 1943 and the remainder between 1943 and 1948.

The scientists noted great improvement in caries-prevention in the second group—the result of refinements in technique. In the first group dietary restrictions kept 61% caries-free for a year; in the second group the figure was 81%.

Since so many individuals are unable or unwilling to remain for long on a severe diet, Dr. Becks experimented with the elimination of a single high sugar habit item. In 69.5% of the persons on whom this was tried there was a significant reduction in caries.

Dr. Becks said that while a satisfactory explanation for caries formation has yet to be found, the sugar-caries relationship and the dietary regime continue to form a practical basis for caries prevention.

Science News Letter, November 4, 1950

IN SCIENC

MEDICINE

Windpipe Banks May Serve Parts for Replacement

➤ LIVE windpipe banks may be added to nerve, artery and bone banks which doctors of the future can draw on when a patient needs a replacement for that part of his body.

Experiments pointing in that direction were reported to the American College of Surgeons in Boston by two groups of investigators, Drs. Orland Davies, J. Malcolm Edmiston and H. J. McCorkle of the University of California School of Medicine, and Dr. Victor Richards and John E. Connolly of Stanford University School of Medicine.

Heretofore tubes of plastic, metal and fibrous tissue have been used in attempts to replace sections of the windpipe, or trachea, when this had to be removed to eradicate disease.

Pieces of trachea, some fresh and some stored in a trachea bank, have been used successfully as grafts to bridge gaps in dogs' tracheas, both groups of surgical investigators reported.

Science News Letter, November 4, 1950

MEDICINE

PPLO May Be Cause of Many Mystery Illnesses

➤ SOME of the mystery illnesses of the present may turn out to be cases of infection with PPLO, short for pleuropneumonia-like organisms, it appears from studies reported by Drs. Harry E. Morton and Paul R. Leberman and Mr. Paul Francis Smith of the University of Pennsylvania School of Medicine to a meeting of the Society of American Bacteriologists in Philadelphia.

Until recently PPLO, which are very small disease germs, have been known chiefly as the cause of a contagious pneumonia combined with virulent pleurisy that attacks cattle. In 1937, a team of Harvard scientists found these PPLO in an abscess in a woman patient. Last spring, the Pennsylvania scientists reported evidence for the view that these germs were pretty much confined to the genito-urinary tract in humans and were transmitted like other venereal diseases.

Now the Pennsylvania scientists report that they have found PPLO in saliva, throat cultures and stools of human patients. This indicates that these tiny germs may invade the body by more than one route and may be responsible for infectious illnesses in which the causative germ is at present unknown.

Science News Letter, November 4, 1950

E FIELDS

MEDICINE

Drug May Cut Deaths In Heart Operations

➤ A LOCAL anesthetic drug, butocaine sulfate, may effect a tremendous saving in lives of patients undergoing heart operations, if experiments reported to the American College of Surgeons in Boston prove successful for human beings.

The experiments were reported by Drs. Alexander H. Bill, Jr., and Jacob C. Wagner of the University of Washington School of Medicine, Seattle.

Operations directly on the heart muscle, the Seattle surgeons pointed out, are apt to result in ventricular fibrillation. This is a dangerous, often fatal condition in which the muscle fibers twitch separately instead of all contracting together for a regular, strong beat. Drugs used to prevent ventricular fibrillation, such as procaine, quinidine and cocaine, have been "unsatisfactory" in the experience of Drs. Bill and Wagner.

Certain characteristics of butocaine sulfate led them to try it in operations on dogs' hearts. They injected a one percent solution of this drug into the sac around the heart five minutes before handling the heart itself. Fibrillation occurred in only two out of 50 cases, or 4%. In another series of 21 similar operations, where other methods of prevention were used, fatal ventricular fibrillation occurred in nine cases, or 43%.

Science News Letter, November 4, 1950

GENERAL SCIENCE

U. S. Open-Door Policy for Refugee Scientists Lauded

➤ AMERICANS who may have doubted the wisdom of opening our doors to refugee scientists from abroad can be heartened by a tribute from Prof. M. Minkowski, leading neurologist of Switzerland, written after the death of the neuropathologist Otto Marburg who found haven in the United States when he had to flee from Vienna after Hitler's invasion. Bowing to both U. S. and English scientists, Prof. Minkowski writes:

"The Anglo-Saxon colleagues have rendered a very great and highly to be appreciated service to Swiss neurology, as well as to neurological science in general. They did this in giving generous haven in time of need and distress, not only to Marburg, but also to quite a number of distinguished representatives of our science such as Freud, Wallenberg, Goldstein, Spiegel, F. H. Lewy, Riese, Wartenberg, v. Witzleben and many others. This made it possible for these men to proceed with their fruitful research work which, also under new conditions, has borne a rich harvest and continues to do so."

Echoing emphatically this statement is one from a refugee doctor, Dr. R. Wartenberg, now on the staff of the University of California Hospital and Medical Center, who says:

"All those refugee doctors who enjoy the great American hospitality appreciate this tribute to America, all the more so since it comes from a neutral source."

Science News Letter, November 4, 1950

ENTOMOLOGY

Desert Locust Invasion Is Nipped in Bud

➤ A DESERT locust invasion now menacing the food supplies of more than 500 million people in Africa and Asia will be stopped where it begins, the breeding grounds.

About the middle of this month, when the winter-breeding season begins, locust-fighting teams spread special poison bait wherever locust breeding grounds are found in Saudi Arabia.

The heaviest rains in 25 years caused this serious threat to the food supplies of the Middle East. Marshall Plan dollars, 179,000 of them, have been marked to aid this fight, the main cost of which will be borne by the British government. Local governments in the affiliated regions will also make contributions to the cost.

The ECA dollars will pay for 57 specially equipped trucks used by the locust-fighting teams.

Since ancient times, locusts have done serious damage to food crops of the world. The last dangerous threat also originated in Saudi Arabia after heavy rains in 1942. That threat was licked by a two-year war waged by the British government.

The present campaign aims at hitting the locusts in their breeding stages for more effective control. Locusts grow wings in about 40 days.

Science News Letter, November 4, 1950

AGRICULTURE

World Cotton Output Cut Eighth by Poor U. S. Crop

➤ THE WORST U. S. cotton crop in years will chop world-wide cotton production by more than an eighth, a statistical report by the Department of Agriculture revealed.

While the rest of the world showed a 2,000,000-bale jump in cotton output, here at home a drop of 6,259,000 bales is predicted. The result will be about 14% less cotton available at a time when economic recovery and speed-up in defense programs is fast increasing the demand for raw cotton.

Science News Letter, November 4, 1950

ENTOMOLOGY

Last Resort in Killing Flies: Use a Hammer

➤ HOUSEFLIES are becoming so resistant to DDT and other new insecticides that it seems sometimes "it takes a hammer to kill them," a research scientist of the U. S. Department of Agriculture reports.

Not only are flies building up immunity to many different chemical poisons. They are developing new biological habits as well, Dr. Fred C. Bishopp, chief of research for the Bureau of Entomology and Plant Quarantine and an expert on fly control, says.

Where residual sprays are used on the normal roosts of flies in houses or barns—the ceilings, beams and walls—flies now stay away. They spend their time on the floors or in grass or shubbery outside, he said. The change in habits appears to be passed on to succeeding generations, even though the youngsters have never come in contact with an insecticide

Dr. Bishopp told National Pest Control Association in Cincinnati recently that the growing immunity of flies to chemical attack is more serious than is generally realized.

It has now been found, he said, that a housefly strain which becomes resistant to one or two specific chemicals may be resistant to all of the commonly used insecticides. Once this high resistance has been developed, he said, it may persist for a long time.

This discovery contradicts the earlier scientific belief that a fly built up immunity only to a specific insecticide or chemical family, Dr. Bishopp said.

Science News Letter, November 4, 1950

MEDICINE

Terramycin May Save Peritonitis Victims

➤ TERRAMYCIN, one of the new so-called mold remedies, or antibiotics, now shows promise of saving lives threatened by peritonitis, dangerous and sometimes deadly complication of late-treated appendicitis and of other conditions of abdominal infection.

"Promising results" in trial of this drug in both human cases and on laboratory animals were reported by Lieut. Col. E. J. Pulaski, Col. Joseph R. Shaeffer, Capt. Curtis Artz and Major Hinton J. Baker, Brooke General Hospital and Brooke Army Medical Center, Fort Sam Houston, Texas, at the meeting in Boston of the American College of Surgeons.

The drug was first tested against more than 300 strains of microorganisms isolated from operation wounds. In these, it showed potential value as a remedy.

The drug can be given by mouth or by injection into a vein. For the human peritonitis cases it was given by vein.

Science News Letter, November 4, 1950