

MEDICINE

Enzymes in Heart Disease

Physicians are now using enzymes to help diagnose heart and liver diseases. Correct diagnosis was made in 90% to 100% of cases studied.

► PHYSICIANS CAN NOW determine quickly whether the ache in a patient's chest means coronary thrombosis or some other illness with like symptoms. Enzymes, substances that speed up chemical reactions, can be used for quick diagnosis of some types of heart disease and also hepatitis, a liver ailment.

More than 90% of coronary thrombosis cases studied were diagnosed correctly, physicians attending a symposium on Current Topics in Cardiovascular Medicine in Washington, D. C., were told.

The spectrophotometer is used to analyze blood samples of patients in a matter of minutes. Although not supplanting the electrocardiogram, the enzyme measurement method is considered more accurate.

Dr. Felix Wroblewski, Cornell Medical School and Sloan-Kettering Memorial Hospital, New York, told of breaking down enzymes into their component parts, an advance that points to future use in determining a variety of diseases even before symptoms are noticeable.

His work was done in collaboration with Dr. Kenneth Gregory, professor of microbiology, Ontario Agricultural College, Guelph, Canada.

Dr. Warren Wacker of Harvard Medical School and Peter Bent Brigham Hospital,

Boston, reported that he had had 100% success in diagnosing coronary heart disease in 99 patients, using an enzyme called lactic dehydrogenase. Elevation of the number of enzymes in the blood proved the diagnosis.

Dr. Howard Tickin, George Washington University Medical School, used another enzyme called transaminase in the study of 201 patients with 98% accuracy.

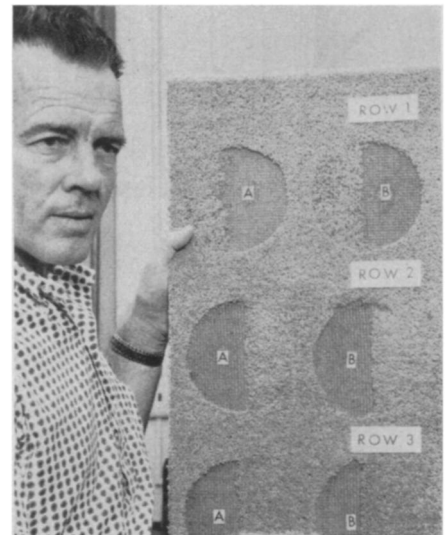
"We can rule out the presence of serious heart attack," he said in an interview, "when the transaminase enzyme does not rise in the blood of patients. A blood clot in the lung, which requires different treatment, is sometimes discovered when a different type of enzyme rises."

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PUBLIC HEALTH

Anti-Radiation Chemical

► ANTI-RADIATION agents to increase chances for survival in the event of nuclear war are being sought by the U. S. Army's Medical Research and Development Command, two medical researchers from the Walter Reed Army Institute of Research, Washington, D. C., reported.



BETLES ON THE CARPET—A pseudo-vitamin spray, perfected by Roy J. Pence, University of California, Los Angeles, protected treated parts of a carpet against beetles.

A drug development program, similar to that under which anti-mutagens were developed, is under way to find an anti-radiation agent useful for protecting man against radiation injury, Dr. David P. Jacobus and Major Michael P. Dacquisto said.

About 1,500 compounds have been evaluated for possible anti-radiation action, mainly by the U. S. Air Force Radiation Laboratory. Of this number, 56 of a specific chemical series were selected as having the best potential. The Army Anti-Radiation Drug Development Program has limited itself to this series.

The chemical mixtures most recently used in dogs are non-lethal, and a dog under their influence is able to walk around and do mild exercise, the Walter Reed researchers reported.

Dogs exposed to high levels of X-radiation, receiving the chemical protection, were provided with at least a 50% reduction in the amount of injury sustained by untreated control dogs. Chemicals were all given intravenously.

The scientists are not yet ready to administer these agents systemically to people, however. The reason is that, although the dogs have not died from the anti-radiation chemicals, they have suffered severe side reactions. One aim of the Army program of research is to eliminate these effects.

The present anti-radiation agents are effective by mouth in mice or dogs for only four to five hours. If perfected so that they may be taken safely in oral administration by man, they would prove useful as a protection to those entering an irradiated area.

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ATOMS AT WORK—A U. S. Atomic Energy Commission exhibit, designed to show the free world the increasing importance of nuclear energy in everyday life, was opened in Lahore, Pakistan. Invitations were sent to Pakistan clubs, affiliated with Science Clubs of America. An essay contest on the subject, "What can atomic energy do for Pakistan?" is being sponsored by the U. S. Information Service for local students.