

MEDICINE

Chemicals Against Cancer

Five drugs which have shown promise in cancer treatment are to be used upon those cancer patients volunteering for treatment in a nation-wide effort to begin in a few weeks.

► FIVE chemical drugs that have shown some promise in cancer treatment will within a few weeks be used clinically by surgeons upon cancer patients who volunteer for such experimental use.

The agents that will be used in the most extensive and most closely controlled test of chemotherapeutic anticancer agents so far are:

Thio-TEPA, TEM, nitrogen mustard, radiophosphorus, and radiogold.

Organized on a nation-wide basis, with the Cancer Chemotherapy National Service Center at Bethesda, Md., coordinating the attempt to prove the usefulness of the drugs, a selected list of surgeons treating cancer will choose the patients and treat them according to a standardized method.

Cancers of the stomach, rectum, colon, lung, breast and ovaries will be included in the program, and the drugs will be used in a variety of ways at the time of operation and after.

The drugs being tested have all shown promise first in animal experimentation and later in tests upon actual patients.

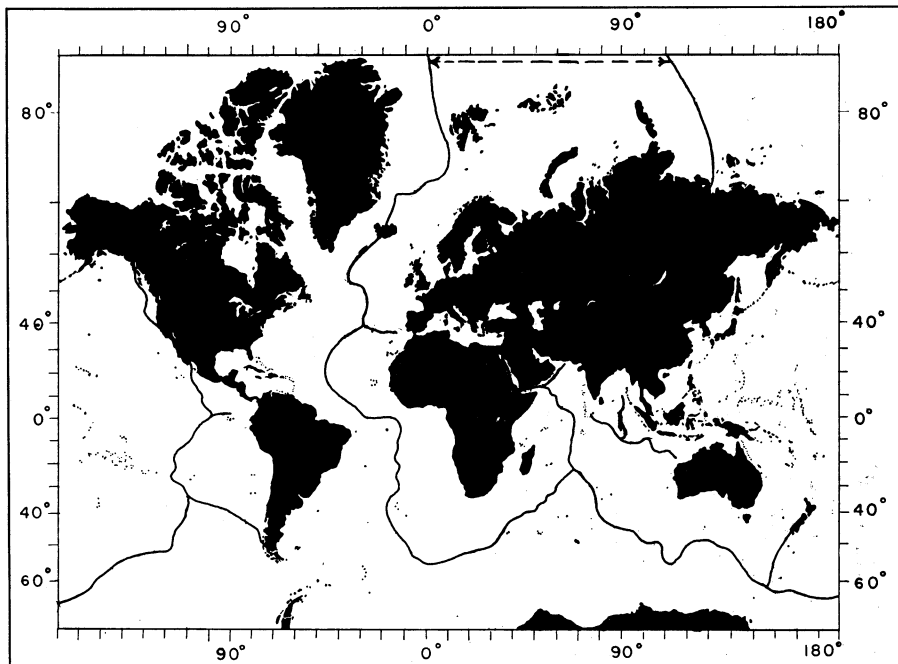
Radiophosphorus will be used in connection with surgical removal of breast cancer, as will radiogold in conjunction with surgery upon the ovaries.

Nitrogen mustard resulted from the search for more potent war gases at the beginning of World War II. It was administered to hopeless cancer patients as early as 1947. TEM, which is short for triethylenemelamine, was used in the textile industry for many years before its antitumor effect was discovered in 1950 by groups searching for such compounds. Thio-TEPA, which is a triethylenethio-phosphoramidate, was first used clinically in 1953. The radioactive substances to be used are largely the result of the atomic energy program.

The actual treatment of patients is still several weeks in the future. Those operating the program do not venture to predict its outcome, but there is more hope than at any time in the past that eventually a chemical cure for cancer can be demonstrated.

Six organizations, the National Cancer Institute of the U. S. Public Health Service, the American Cancer Society, the A.E.C., U. S. Food and Drug Administration, Veterans Administration and the Damon Runyon Memorial Fund are cooperating, with Dr. Kenneth M. Endicott coordinating the program.

Science News Letter, February 16, 1957



LONG UNDERSEA CRACK—The black lines show the 45,000-mile crack in the earth's surface, the existence of which has been confirmed by Columbia University scientists. Another is in the Indian Ocean.

● RADIO

Saturday, Feb. 23, 1957, 1:45-2:00 p.m., EST. "Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

Youthful winners of the Sixteenth Annual Science Talent Search for the Westinghouse Science Scholarships, who have been selected from the nation's high schools as potential creative scientists of the future, will describe their projects.

GEOLOGY

Confirm Existence of Long Undersea Crack

► THE EXISTENCE of a continuous undersea crack 45,000 miles long in the earth's surface has been confirmed by Columbia University scientists.

The rift averages 20 miles wide and one and a half miles deep. It coincides with a world-wide active earthquake zone along its entire length, indicating it is a youthful geological feature that is growing, changing or being pulled apart.

Dr. Maurice Ewing, director of the Lamont Geological Observatory, a division of the University, said that virtually 100% of the earthquake shocks along the 45,000-mile line occur almost exactly within the limits of the rifts.

"The main line of the world-wide rift system," he said, "extends through the North and South Atlantic Oceans, around the tip of Africa into the Indian Ocean, then branches through the Arabian Sea connecting with the famous African Rift Valleys, long studied by geologists.

"The other branch passes between Antarctica and New Zealand, running toward the Macquarie Islands into the Pacific Ocean, where it again branches near Easter Island. The northern branch continues toward the Gulf of California, which is considered a related feature. The rift belt passes from Cape Mendocino toward Lynn Channel, Alaska."

Referring again to the North Atlantic, Dr. Ewing said "there is good evidence of a connection through the Norwegian Sea and the Arctic Ocean."

Thus traced, the zone is about 45,000 miles long.

Significance of the findings, result of a five-year study, is that they may help to determine the origin of the major surface features of the earth and of changes that have taken place in its geological history.

Some of the mountains along the rift line reach a height of about 12,000 feet and are about 75 miles wide, but even the highest peaks are from 3,600 to 7,200 feet under the ocean's surface.

Deepest point in the rift line is about four miles below the surface, and the average depth is about two miles.

Marie Tharp and Dr. Bruce Heezen and their associates at the Lamont Geological Observatory collaborated with Dr. Ewing in the study.

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