

MEDICINE

Radioactive Iodine Helps In Certain Heart Ailments

► USING RADIOACTIVE iodine to slow down the metabolic rate is a promising new method of treating certain types of heart disease.

Patients with severe chest pains (angina pectoris), congestive heart failure and recurring irregular heart rhythms (tachycardia and auricular fibrillation) are given small, harmless doses of radioactive iodine periodically. The iodine is selectively taken up by the thyroid gland, which influences the body's metabolic rate. The iodine's radiation reduces thyroid activity. As a result, metabolism is slowed and the heart's work load markedly decreased.

Of the 202 patients so treated, 167 showed marked improvement. Patients with angina were generally relieved of pain and were able to exercise more freely. Personality improvement was also observed, probably as a result of decreased emotional tension from lower metabolic rate.

This marks the first time this treatment has been used on patients with irregular heart rhythms. In most cases the heart rhythm became normal.

Experiences with 202 patients treated with radioactive iodine are reported in the American Journal of Cardiology, 6:952, 1960, by Drs. Eliot Corday, Henry L. Jaffe and David W. Irving.

The study was a joint effort by the University of California at Los Angeles and the University of Southern California Medical Schools, the work being conducted at the Cedars of Lebanon Hospital.

• Science News Letter, 79:24 January 14, 1961

GENERAL SCIENCE

Investigation Gives FDA Clean Bill of Health

► THE FOOD and Drug Administration will be turned over to the new administration with a clean bill of health and a new "internal inspection" officer to keep it clean.

A special investigating unit appointed by Secretary Arthur S. Flemming of the Department of Health, Education and Welfare reported in Washington, D. C., that FDA personnel "are more than ordinarily dedicated to the purposes of the agency."

The investigation grew out of improprieties of Dr. Henry Welch, former director of the FDA antibiotics division, who during a seven-year period received about \$200,000 for services related to an editing job for MD Publications and Medical Encyclopedia, Inc., while still employed by FDA.

The special investigating unit, directed by Charles H. Kendall, general counsel of the Office of Civil and Defense Mobilization, made six recommendations that Secretary Flemming expects to put into effect before Gov. Abraham Ribicoff takes over the HEW secretaryship. They are:

1. That existing regulations concerning the conduct of FDA employees be re-examined and that the receipt of gratuities from industries subject to regulation on both food and drug laws be expressly forbidden.

2. That an office of internal inspection be established in FDA reporting directly to the Commissioner to make investigations of alleged misconduct by employees. (The FDA Commissioner is expected to fill this office by Jan. 16, 1961).

3. That a reasonable control be put upon the access of industry representatives to FDA personnel considering actions affecting the industry.

4. That a closer relationship between FDA and state and local health authorities be encouraged.

5. That reorganizational steps be taken to assure FDA scientists that their views will be presented and considered in the making of decisions at the Commissioner's level.

6. That funds be sought to make possible wider distribution of FDA reports and bulletins and that the participation of FDA scientists in scientific meetings be encouraged.

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EPIDEMIOLOGY

Waters of Aswan Dam Could Bring Epidemic

► WHEN THE ASWAN High Dam on the Nile River is completed, its snail-infested waters could bring a serious epidemic of schistosomiasis to Egypt.

This prediction, by Prof. Henry van der Schalie of the University of Michigan Museum of Zoology, is based on a study of the disease problem in Egypt.

Bilharziasis, or schistosomiasis, is a disease caused by a human blood fluke or flat worm. The parasite requires a snail host during a portion of its life cycle, and more irrigation water will mean more snails.

Dr. van der Schalie said converting the Nile basin above Cairo to perennial irrigation will at least increase the incidence of vesicular blood fluke, the disease-causing organism, to 60% or more of the population.

Officials at the United Arab Republic embassy in Washington discounted the danger, saying it would be offset by the increased standards of living as the dam produces power for industries. Farmers could use cheap rubber boots to protect themselves while irrigating.

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CONSERVATION

Green Ranges Expected From Air-Sown Seeds

► GRASS SEED will rain from a low-flying plane next July in an experiment aimed at turning about 480 acres of Federal rangeland green. Under a U. S. Bureau of Land Management grant, University of Arizona scientists, headed by Dr. Andrew L. McComb, will have specially prepared pea-like seed pellets, made of clay, and regular seeds dropped over the test areas, as yet unselected, just before the heavy seasonal showers. The special seed pellets, made by Dr. Lytle S. Adams, a retired dental surgeon, contain fertilizer for the seeds and repellents for rodents and insects.

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IN SCIEN

SURGERY

Fewer Surgical Deaths For Hereditary Bleeders

► "BLEEDERS" or hemophiliacs, who suffer from a hereditary blood condition in which the blood clots slowly or fails to clot, can now survive operations as well as normal patients.

Drs. Edward P. Passaro and Prentiss M. Dettman of Ohio State University College of Medicine, and Dr. Blanca Smith of Children's Hospital, Columbus, Ohio, report dramatic reduction of deaths of hemophiliac patients in the American Medical Association's Archives of Surgery, 81:864, 1960.

The surgeons report 16 cases of hemophiliacs who have undergone surgery for abdominal ailments, all of whom recovered. Fresh whole blood or fresh frozen plasma (FFP) is used most often in treating hemophilia today. In former years, deaths ranged from 30% to 60% among the bleeders who underwent surgery.

Complications occurred, such as postoperative bleeding, kidney shutdown, jaundice and congestive failure resulting from transfusions, but no deaths were reported.

Appendicitis has been the most frequent cause of major surgery, with tonsillectomies and teeth extractions the most common indications for minor operations among hemophiliacs.

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ASTRONOMY

Project Getting Ready To Photograph Planets

► PRELIMINARY TESTS have started for Stratoscope II, a project to photograph planets and stars from 80,000 feet in the fall of 1961.

Pictures of a clarity never before obtained are expected with the balloon-borne 30-inch telescope system, which weighs more than two tons.

Better astronomical photographs can be taken from 80,000 feet because no atmospheric turbulence or dust are present to distort or obscure seeing conditions. The balloon is scheduled to remain aloft during the night while observations are made.

Prof. Martin Schwarzschild of Princeton University is directing the project. Astronomers hope from the photographs to get a look at the surface of Venus, to analyze the divisions in Saturn's rings and to study atmospheric changes on Jupiter that may help explain the planet's red spot.

The program is sponsored by the National Science Foundation and the Office of Naval Research, with support from the National Aeronautics and Space Administration.

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CE FIELDS

ENDOCRINOLOGY

Female Sex Hormones Lessen Frog Parasites

► FEMALE SEX HORMONES play a part in holding parasitic infestation in check.

This is true for frogs, at least; E. Lees and L. Bass of the Institute of Technology, Bradford, England, have found.

The number of helminth or worm-like intestinal parasites in male frogs decreased after they were injected with the female hormone estradiol, they report in *Nature*, 188:1211, 1960.

Examination of some 500 frogs during a four-year period showed that during and immediately before the breeding season, in January and February, the helminth infestation was much higher in male than in female frogs. After the breeding season, the difference was less marked.

To test their assumption that the presence of female sex hormones lessens the infestation with parasites, the scientists took 50 male frogs known to be heavily infested with helminth parasites and injected half of them with a female sex hormone preparation, estradiol benzoate, during the 12-day period.

Postmortem examination at the end of three weeks showed marked lessening of the worm infestation among the injected males.

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GEOPHYSICS

Aurora Zone Best Take-off For "Live" Satellite

► THE BEST PLACE and time to send up a satellite or space capsule with life aboard may be where an aurora is occurring.

Drs. C. W. Gartlein and G. Sprague of the IGY Auroral Data Center at Cornell University, Ithaca, N. Y., reported that radiation in the auroral zone is likely to be less dangerous to man or other forms of life than that of the rest of earth's very high atmosphere. Although radiation is present, possibly enough to burn a person's skin, its dangers can be prevented by relatively light protection. Heavy lead would not be needed.

One way of diminishing radiation on a satellite would be to magnetize it. A satellite could be magnetized by a wire with a current running through it. If this were done, radiation would hit the satellite only on the top and bottom, the only spots that would need shielding. Solar batteries could possibly supply the current.

The scientists said their latest calculations seem to show two areas of heavy radiation "clouds," one above each of the earth's poles, in addition to the Van Allen radiation belts that circle the earth.

The polar radiation "clouds" are very large at the time of auroras but small and

patchy when no auroras occur. The radiation clouds produce radio disturbances as do auroras, they said.

Drs. Gartlein and Sprague said that both the auroras and radiation clouds above the poles are secondary results of events on the sun. They said some scientists believe that solar surface activity, such as storms, sunspots and flares, generally associated with auroral activity, may be a secondary effect of some process in the interior of the sun.

The scientists said their calculations about the radiation zones over the poles have yet to be verified. This could be achieved by satellite in a circumpolar orbit.

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PHARMACOLOGY

Swedish Drug Effective Against Influenza, Colds

► FLUMIDIN, an anti-influenza drug also effective against colds, has been developed after ten years of research by AB Kabi, a Stockholm pharmaceutical industry. Bengt Melander was in charge of the research work.

Flumidin contains a biguanide called ABOB, which is a chemical cousin to paludrine, a well-known anti-malarial drug.

Experiments carried out in Sweden and elsewhere showed that Flumidin, which is taken in tablet form, reduced the incidence of influenza attacks by 30% to 90%. Given to 883 employees of a Swedish industry, the drug was 94% effective against influenza and 64% effective against the common cold.

Another large field test covering 1,500 persons at three military establishments showed a 30% protective effect.

Once influenza has set in, Flumidin is said to reduce the length of the average attack from six to four days.

A similar drug called Virugon, first developed in Sweden, has been perfected by British chemists of the Winthrop Group. Virugon is said to be also effective against mumps, measles, chicken pox and shingles, all of which are caused by viruses.

Clinical tests are being made in the United States to determine the effectiveness of the virus-combating drugs. No predictions have been made as to when or if the new products might be available.

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SURGERY

Cats With Half a Brain Still Able to Hunt Mice

► CATS ARE ABLE to hunt mice and birds after one of the two brain hemispheres is removed, the Clinical Congress of the American College of Surgeons meeting in San Francisco was told. Drs. Joseph E. Bogen and Berry Campbell of the College of Medical Evangelists, Los Angeles, said that the animals also retain a variety of individual personality patterns and motor abilities in spite of the loss of the right half of the brain. Some imbalance was noted, however. One cat was baffled by a mouse that clung to its left shoulder.

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PHYSIOLOGY

Cool Environment Better Than Warm for Infants?

► SOME NEWBORN INFANTS may thrive better in a cool environment than a warm one.

Drs. Nicholas S. Assali and Bjorn Westin of the University of California, Los Angeles, Medical School are investigating this possibility under a grant from the Los Angeles County Heart Association and the U. S. Public Health Service.

Dr. Westin, a visiting scientist from the Karolinska Institute, Stockholm, Sweden, said physicians in many Scandinavian medical centers treat newborn infants who have difficulty in breathing by putting them in a cold environment and lowering the body temperature five to ten degrees.

The reasoning behind this is that as the infant's body is cooled, all life processes slow down and the infant has less need for oxygen.

Thus the infant's breathing mechanism has less strain and is able to make an easier adjustment to life outside the uterus. Statistics show that the survival rate of premature infants is especially high in Scandinavian countries.

The UCLA investigators are using experimental animals to determine if body cooling may affect this survival rate. Studies are being made of the effects of cool versus warm environment on the oxygen consumption as well as on the blood flow to vital organs of the mother and her unborn offspring.

Other studies compare the effects of body-cooling treatment on premature and full-term baby animals. Litters are divided so that half is in a warm environment after birth and half in a cold one. Preliminary tests indicate that the survival rate of baby animals kept at a cold temperature is higher.

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ASTRONOMY

Tailless Comet Celebrates New Year in Cassiopeia

► A TAILLESS comet began the New Year in the constellation of Cassiopeia, the queen, visible in the northern sky.

The comet Candy-Taylor was discovered by Dr. M. P. Candy and Gordon E. Taylor of the British Astronomical Association.

The fast-moving comet was of eighth magnitude and could be seen in the evening sky with binoculars. When discovered it was located near Polaris, the North Star.

On Dec. 26 its right ascension was 20 hours and 35.3 minutes with a daily motion of plus 57 minutes. Its declination was plus 76 degrees and 28 minutes of arc with a daily motion of minus two degrees and 45 minutes.

Discovery of the comet was reported to Harvard College Observatory, Cambridge, Mass.

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