

OPHTHALMOLOGY

Remodel Sulfa Drug

Discovery of new drug, a remade sulfanilamide, for treating the dread eye disease, glaucoma, is termed "most exciting." Can be taken in pill form with long-lasting effects.

► PATIENTS WITH the serious eye disease, glaucoma, which if unchecked leads to blindness, are being helped by a remodeled sulfa drug, Dr. Bernard Becker, professor of ophthalmology at Washington University School of Medicine, St. Louis, announced at the sight-saving conference of the National Society for the Prevention of Blindness.

Calling it "most exciting," Dr. Becker said the new drug is the first thing of its kind doctors have had for treating glaucoma. Heretofore, they have had to rely either on operations on the eye or on drops put into the eye at frequent and regular intervals to lower the over-high pressure within the eye in glaucoma.

Now they can check glaucoma, with its threat of blindness, by pills to be swallowed.

The new medicine is called Diamox by its manufacturers, Lederle Laboratories. It was first announced as an aid in cases of congestive heart failure. (See SNL, June 20, 1953, p. 380). Dr. J. M. Ruegsegger and associates at Lederle reported then that it was made by remodeling the first sulfa drug, sulfanilamide.

Sulfanilamide itself had long before been discovered to have an effect on the kidneys because it stopped the action of a body enzyme called carbonic anhydrase. New sulfa drugs were developed to get away from this effect.

However, the Lederle scientists thought the effect on the kidneys might be useful in conditions where an increase in kidney excretion would help remove excess sodium, water and potassium held in water-logged tissues of patients with dropsy. So they made the new drug.

In glaucoma, the normal outflow of watery fluid inside the eye is decreased and pressure within the eye builds up. Diamox seemed a possible aid to relieve it.

Dr. Becker started using it last October. He tried it on both normal persons and those with glaucoma. In both, he found, it reduced the pressure within the eye by causing increased outflow of fluid.

He has now used it effectively in 70 patients. Some have taken it to reduce eye pressure before operations needed to check glaucoma. Others have been able to avoid operations by taking the Diamox pills regularly. The pills keep the pressure down indefinitely.

The big use for the drug in future for glaucoma patients, it seems, will be to keep the disease in check so the always hazardous eye operations will not be needed.

Diamox seems to be a perfectly safe drug. It has not shown any toxicity or side-effect so far. While related to sulfanilamide, it does not have any anti-disease germ activity.

Science News Letter, March 20, 1954

GERONTOLOGY

Surgery for Elderly

► SPECIAL CARE should be taken before major operations with old people. A study of 3,656 operations has shown that the mortality rate of patients over 60 in emergency operations is three times that in carefully planned surgery.

Dr. Warren H. Cole of the University of Illinois College of Medicine, Chicago, found that old people survived most operations as well as young people. Healing power is as strong in old tissues as young ones, he said.

For major operations, however, old people are several times less able to survive the operation and the immediate postoperative period.

In the survey, Dr. Cole found that 2.07% of the patients under 60 and 5.1% of the patients over 60 died as a result of the operations. Major operations included in the study were removal of the rectum, esophagus, colon and lung, and extensive throat and mouth surgery.

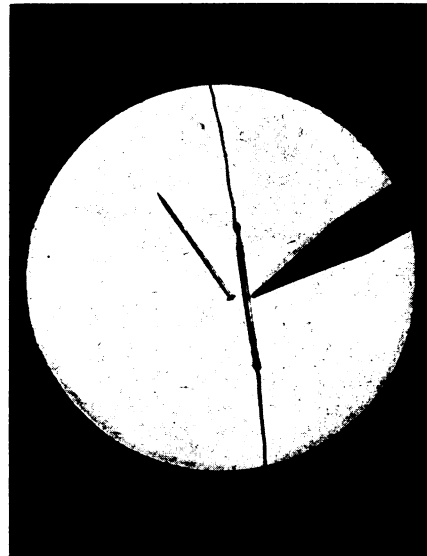
Older patients withstood stomach operations better than the young, although the difference was too slight to be statistically significant.

Dr. Cole pointed out that artery hardening makes the old more susceptible to shock, and older patients are more sensitive to some anesthetics, more susceptible to infections, and frequently not well nourished.

Special care before operations should be taken to build up the patients with food, with transfusions when necessary and, sometimes, with hormones. Particular concern should be paid to the elderly patient's condition in selecting the anesthetic, and the surgeon should be prepared to give massive transfusions during the operation, Dr. Cole continued.

The American Cancer Society supports clinical research in cancer at the medical school.

Science News Letter, March 20, 1954



TINY LAMP—Especially designed for use in missile tests, this minute lamp has been billed as the world's smallest by Westinghouse Electric Corporation, in whose laboratories it was made.

TECHNOLOGY

"World's Smallest" Lamp Is Developed

► A TINY lamp bulb the size of a pinhead has been developed to time pictures taken during guided missile tests.

Only a twentieth of an inch in diameter, the Westinghouse neon bulb generates a glow of one-fortieth of a watt between two electrodes spaced a twenty-fifth of an inch apart. Billed as the "world's smallest," 50 of the tiny lamps are to be situated along a strip of 35 mm motion picture film to provide the timing data needed.

Science News Letter, March 20, 1954

BIOCHEMISTRY

Two Techniques Give Blood Test for ACTH

► BY COMBINING two techniques, Drs. George Sayers and Katherine L. Sydnor of Western Reserve University, Cleveland, have developed a new test for ACTH in the blood.

ACTH is the pituitary gland hormone which stimulates the adrenals to produce anti-arthritis cortisone and other hormones. It has been used in treating arthritis and many other conditions. The new test, reported as accurate, sensitive and specific, depends on a method developed by other scientists for purifying ACTH with oxycellulose and a method for measuring the disappearance of vitamin C, or ascorbic acid, from rat adrenal gland tissue. It was developed with support from the American Cancer Society.

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