

MEDICINE

Deaths Wrongly Blamed

THE MAN who administers the anesthetic during surgery is often wrongly blamed for deaths that occur during or after an operation.

Operating room mortalities are so "loosely" reported that the exact cause of death is often overlooked. Many are erroneously recorded as anesthetic deaths, Dr. Joseph E. Campbell, pathologist of the office of the Cook County coroner, Chicago, told colleagues attending a meeting of the International Anesthesia Research Society in Washington, D.C.

He based this conclusion on the results of a joint 30-month post-mortem study in Philadelphia with Dr. William A. Weiss, District of Columbia General Hospital, Washington, and Dr. Frederic Rieders of the Office of the Medical Examiner in Philadelphia.

The study showed that of 645 deaths reported associated with anesthesia, the pain-

killers were the sole or major factor in only 28 of these deaths.

When a post-mortem examination fails to reveal the cause of death, it is usually presumed that the anesthetist was at fault and lacked the necessary skill for his job. This conclusion is entirely unjustified, Dr. Campbell said. The anesthesiologist should not be blamed for the inadequacies of the examining pathologist, he added.

In the first place, a routine hospital autopsy is not an adequate method of determining the cause of death. The anesthesiologist can be protected from erroneous assumptions, however. Dr. Campbell suggested that compulsory reporting of such cases to the medico-legal agency with thorough post-mortem studies would offer such protection. No death should be attributed to excessive anesthesia unless an autopsy, by scientific findings, confirms this as the sole or major cause, he said.

Science News Letter, May 21, 1960

MEDICINE

Brain's Heart Control Area

FOR THE FIRST TIME, specific brain areas which influence the heart rhythm have been pinpointed and their role in such serious conditions as "racing heart" and premature heartbeats have been more clearly defined.

Drs. S. J. Weinberg and Joaquin M. Fuster of the University of California Medical Center, Los Angeles, have reported these findings.

A tiny brain segment—less than a cubic inch—known as the hypothalamus, has long been suspected of playing an important role in regulation of vital organs such as the heart and kidney. Just what precise areas in the segment influence the heartbeat were not known.

The investigators placed tiny electrodes in various clumps of hypothalamus cells of experimental animals and electrically stimulated them. Effects of this on the heart were observed on the electrocardiogram.

Stimulation of certain of these brain cells, chiefly in the lateral and posterior

hypothalamus, produced electrocardiograms similar to certain clinical heart conditions in humans. These included premature heartbeats, "racing heart," and irregular heartbeats similar to those caused by an excess of such heart drugs as quinidine.

The hypothalamus is, among other things, a way-station for reactions accompanying the expression of emotions, Dr. Weinberg points out. Through excitation of these tiny clumps of hypothalamic cells, emotions may cause irregular heart rhythms.

Thus patients suffering from these aberrations of the heart's normal function should in some cases be treated for emotional disorders as well as for any basic heart disturbance.

The pinpointing of these brain areas which influence the heart function may also lead to a more effective means of evaluating drugs which will correct irregular rhythms. Such drugs may act on these particular groups of brain cells.

Science News Letter, May 21, 1960

MEDICINE

Accident of Nature

A CHEMICAL "accident of nature" responsible for pentosuria—a mild and non-disabling disease characterized by excess sugar in the urine—has been partially pinpointed by scientists from Beth Israel Hospital and Harvard Medical School in Boston.

Their findings provide a new means of detecting carriers of the disease trait and a way to distinguish pentosuria from diabetes. In pentosuria, patients excrete large amounts of L-xylulose, a sugar-molecule with five carbon atoms. Diabetics excrete excessive glucose, a sugar molecule with six carbon atoms.

People with pentosuria apparently cannot convert L-xylulose to an alcohol called xylitol because they lack the enzyme that catalyzes the reaction. The presumed reason they lack the enzyme is that they lack the gene controlling the production of the enzyme.

Research supported by the American Cancer Society and headed by Dr. Howard H. Hiatt showed that normal people excreted no L-xylulose when fasting and very little after eating. Pentosurics showed substantial amounts of L-xylulose in both blood and urine while fasting and seven or eight times as much after eating.

The apparently normal relatives of the pentosurics showed practically no blood or urine L-xylulose while fasting but registered several times as much as the normals and about five percent as much as the pentosurics after eating.

The results indicated that pentosurics acquire the gene defect from both parents. The presumably non-pentosuric relatives, who inherited the gene from only one parent, had a hidden and extremely mild pentosuria. They inherited enough of the enzyme-forming potential from the normal parent to metabolize L-xylulose well but, as carriers of the gene defect, they could pass the disease trait along to their offspring.

Science News Letter, May 21, 1960

SCIENCE NEWS LETTER

VOL 77 MAY 21, 1960 NO. 21

Edited by WATSON DAVIS

The Weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N St., N.W., Washington 6, D. C., NORTH 7-2255. Cable Address: SCIENSERVC.

Subscription rates: 1 yr., \$5.50; 2 yrs., \$10.00; 3 yrs., \$14.50; ten or more copies in one package to one address, 7½ cents per copy per week; single copy, 15 cents, more than six months old, 25 cents. No charge for foreign postage.

Change of address: Three weeks notice is required. When ordering a change please state exactly how magazine is now addressed. Your new address should include postal zone number if you have one.

Copyright © 1960 by Science Service, Inc. Reproduction of any portion of SCIENCE NEWS LETTER is strictly prohibited. Newspapers, magazines and other publications are invited to avail themselves of the numerous syndicated services issued by Science Service. Science Service also publishes CHEMISTRY (eight times a year) and THINGS of Science (monthly).

Printed in U.S.A. Second class postage paid at Washington, D. C. Established in mimeograph form March 13, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Reader's Guide to Periodical Literature, Abridged Guide, and the Engineering Index. Member Audit Bureau of Circulation.



SCIENCE SERVICE

The Institution for the Popularization of Science organized 1921 as a non-profit corporation.

Board of Trustees—Nominated by the American Association for the Advancement of Science: William W. Rubey, U. S. Geological Survey; Wallace R. Brode, National Bureau of Standards; Douglas Whitaker, Rockefeller Institute for Medical Research. Nominated by the National Academy of Sciences: Harlow Shapley, Harvard College Observatory; Philip Bard, Johns Hopkins University; Henry Allen Moe, John Simon Guggenheim Memorial Foundation. Nominated by the National Research Council: Leonard Carmichael, Smithsonian Institution; John R. Dunning, Columbia University; Benjamin H. Wallier, Johns Hopkins University. Nominated by the Journalistic Profession: Michael J. Ogden, Providence Journal-Bulletin; O. W. Riegel, Washington and Lee University; Lee Hills, Detroit Free Press. Nominated by the Scripps Estate: Edward J. Meeman, Memphis Press-Scimitar; Frank Ford, Washington, D. C.; Charles E. Scripps, Cincinnati, Ohio.

Officers—President: Leonard Carmichael; Vice President and Chairman of Executive Committee: Charles E. Scripps; Treasurer: Wallace R. Brode; Secretary: Watson Davis.

Staff—Director: Watson Davis. Writers: Gloria Ball, Ann Ewing, W. T. M. Grigg, Jane Marye, Tove Neville, Marjorie Van de Water. Science Youth Division: Joseph H. Kraus, Dorothy Schriver, Shirley Moore. Photography: Fremont Davis. Production: Priscilla Howe, Marcia Nelson. Syndicate Sales: Hallie Jenkins. Interlingua Division in New York: Alexander Gode, 80 E. 11th St., GRamercy 3-5410. Advertising Manager: Fred A. Moulton, MEtropolitan 8-2562.