

SURGERY

Surgery Still Important For High Blood Pressure

► SINCE 1950 modern drugs have reduced the need for surgery in high blood pressure cases but they have not completely replaced it.

Dr. R. H. Smithwick, surgeon-in-chief of Massachusetts Memorial Hospitals, who developed in 1938 the operation for hypertension most commonly used today, told the Hahnemann symposium on recent advances in hypertension that modern medical therapy "should not be considered a rival of surgical treatment."

If drugs are successful in treating high blood pressure, Dr. Smithwick said, surgery is not indicated.

"However, in the most refractory cases," he said, "surgery, diet and drugs must all be used in an effort to lower the blood pressure levels so that survival rates for this group of cases may be significantly improved."

The common surgical operation, called lumbodorsal splanchnicectomy, was formerly performed in two stages, first on one side of the back and then on the other ten days later. It is now performed on both sides at the same time.

Dr. Smithwick was assisted in his report by Drs. G. P. Whitelaw and D. Kinsey, both of Massachusetts Memorial Hospitals. Hahnemann Medical College and Hospital in Philadelphia sponsored the symposium.

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MEDICINE

Smaller Doses Effective With New Steroid Drug

► A NEW STEROID drug can be taken in smaller doses and with fewer side effects than other corticosteroids, physicians reported at a symposium in New York.

The drug, called Celestone or betamethasone, is used to treat allergic patients, including those with eye difficulties due to allergy, skin difficulties and rheumatic conditions.

Dr. M. Murray Nierman of the Chicago Medical School reported tests on 353 patients with a variety of skin diseases who showed negligible side effects on short-term administration of the tablets by mouth.

Dr. Arnold H. Gould of Georgetown University School of Medicine and Dr. James Q. Gant Jr. of George Washington University School of Medicine, both of Washington, D. C., tested 154 dermatology patients with no failures.

Results in 150 were good to excellent, they said, and in no case did they find the former dangers associated with steroids. Such dangers include activation of peptic ulcer, hair on the face, buffalo hump or fat pads between the shoulders, moon-shaped face, stretched marks on the abdomen and black and blue marks on the body.

Tests on 39 children with intractable asthma by Dr. Samuel C. Bukantz of the University of Colorado School of Medicine,

Denver, showed almost uniformly good response.

Celestone was first developed some three years ago in the laboratories of the Schering Corporation, Bloomfield, N. J., which sponsored the meeting. Since then clinical trials have been made and the drug has been cleared by the U. S. Food and Drug Administration for sale under doctor's prescription.

Celestone is a synthetic derivative of prednisolone and has the composition 9-alpha-fluoro-16-beta-methyl prednisolone.

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MEDICINE

Killed Polio Vaccine Tests 98% Effective

► THE PURIFIED and concentrated killed poliovirus vaccine, Purivax, was 98% effective in trials reported in the Journal of the American Medical Association, 176:409, 1961.

The purification process has removed all "serologically detectable monkey-kidney antigen and essentially all other nonviral contaminating materials present in the ordinary crude Salk vaccine."

Drs. Carl Wehl, Cincinnati General Hospital; David Cornfeld, Hospital of the University of Pennsylvania; Harris D. Riley, Children's Memorial Hospital, University of Oklahoma Medical Center; Nancy Huang, St. Christopher's Hospital, Philadelphia; and Henry Cramblett, Wake Forest College, Winston-Salem, N. C., reported findings based on studies of 53 children, mainly infants, who received two doses one month apart. Purivax was developed by Merck Sharp & Dohme, West Point, Pa.

Other reports that will be read by physicians in their official journal:

Tracing the cause of a recent serum hepatitis epidemic in New England to improperly sterilized syringes used on various patients points up the need for disposable equipment or more effective methods of sterilization in the doctor's office.—Dr. H. Bruce Dull, Peter Bent Brigham Hospital, Boston (p. 413).

Safe and unsafe automobile drivers can be discovered through psychological testing. A study of 331 amateur sports car drivers showed that those who committed the most errors reject social customs, lack proper ethical awareness, like to take personal risks and are prone to abstract thought.—Drs. John L. Benton and Lloyd Mills, University of Southern California School of Medicine, Los Angeles; Ken Hartman, space medicine laboratory, Aerojet Corporation, Azusa, Calif.; and James T. Crow, Automotive Editor, Los Angeles (p. 419).

Weight control through self-prescribed formula diets is irrational and no panacea for obesity. Manufacturers of the 60 to 80 types of "complete" formula low calorie diets are "prescribing" the same caloric intake for all persons, which is questionable.—Dr. Philip L. White, secretary, AMA Council on Foods and Nutrition (p. 442).

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IN SCIENCE

PHARMACOLOGY

Non-Narcotic Painkiller Tested on Humans

► A POTENT, non-narcotic painkiller is now being tested in human patients. Taken in pill form, rather than by injection, it is one-half to one-fourth as powerful as morphine, but has none of its addictive powers.

Dr. L. B. Witkin of CIBA Pharmaceutical Products, Summit, N.J., reported to the American Societies for Experimental Biology in Atlantic City, N. J., that 2-amino-indane can deaden pain as well as morphine. Although less potent, he said, it can be given safely in larger doses (25 milligrams as compared with about 15 of morphine).

Unlike morphine, however, 2-amino-indane is a mild stimulant rather than a depressant capable of producing slow respiration, euphoria, dreaminess and addiction.

The chemical was synthesized by Dr. C. F. Huebner, a CIBA chemist. One of its closest chemical relatives is an antihistamine, also found by Dr. Huebner and his co-workers, in the same chemical series.

The new painkiller has been on clinical trial only a few months and data on its use in humans are scant. Its main potential is in the range of pain where a patient needs more than aspirin but does not need to hazard the addictive morphine.

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MEDICINE

Tourniquets Not Advised For Arm and Leg Wounds

► TOURNIQUETS are "almost never necessary," Dr. R. Arnold Griswold, University of Louisville School of Medicine, Louisville, Ky., told the American Academy of General Practice meeting in Miami Beach, Fla.

Minor arm and leg wounds may be very dangerous, Dr. Griswold said, but elaborate first-aid measures often do more harm than good. The indiscriminate use of a tourniquet can be damaging.

Preventing further contamination and hemorrhage in such wounds can best be achieved by simply applying a "voluminous sterile pressure dressing," he explained.

Dr. Alton Ochsner of the Ochsner Clinic, New Orleans, said that gastric ulcers should be treated by surgery because they may become malignant. Malignancy is impossible to identify in such cases without microscopic examination, he said.

He emphasized that results of surgery are good in 85% to 90% of benign ulcer cases and that most postoperative symptoms develop early and lessen with time. Dr. Ochsner advised prompt management of after-meal distress, nutritional difficulties, recurrent ulceration and other postoperative conditions.

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CE FIELDS

MEDICINE

Arteries of Infants Contain Fat Deposits

► **FATTY DEPOSITS** begin to appear in the arteries as early as the first year of life, researchers at the University of London have reported.

Examination of 382 aortas following death showed that every patient in the 11 to 20 age group had fatty deposits and that after 25 particularly, fibrous plaques made their appearance. Complicated lesions appeared in the late 40's and by the late 60's almost all patients were affected with the plaques leading to sclerosis, or hardening of the arteries.

The scientists recommended further studies to find out what factors influenced the conversion of fatty streaks to fibrous plaques in the arteries.

Collaborating in the study, reported in the British Medical Journal, April 29, 1961, were Drs. Kenneth R. Hill, Francis E. Camps, Kathleen Rigg and Brian E. G. McKinney, all of the University of London.

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MEDICINE

Two Major Blood Banks Join Forces

► **THE NATION'S** two major blood banking systems—the American National Red Cross and the American Association of Blood Banks—will start exchanging blood and donor replacement credits May 27.

Announcement of the new agreement was made by Gen. Alfred M. Gruenther, American Red Cross president, and Dr. John R. Schenken, American Association of Blood Banks president. Details have been under negotiation since last August when the two organizations first agreed on a nation-wide reciprocity system.

Donors will be able to give blood throughout the United States—through the two organizations' participating banks—and have it credited to a patient anywhere else. In cases involving rare or out-of-stock blood types, blood can be shipped.

Blood and blood credits previously exchanged through separate clearing houses, maintained for many years by the two organizations, will now be exchanged on a national basis through an inter-organizational clearing house.

As an example of how the exchange agreement works, the Red Cross said, suppose a Milwaukee boy is injured in an auto accident in Connecticut. Relatives and friends in Milwaukee give 15 units of blood for him. The blood is kept and used by the AABB bank in Milwaukee. But the credit is forwarded to the Red Cross Regional Center in Connecticut, through the merged clearing house system.

The Connecticut center may then have

occasion to draw blood for a New Englander receiving transfusions at an AABB blood bank in the Midwest. At the end of the month, the exchange of credits may balance the books. If not, an actual exchange of blood may be necessary.

The Red Cross has 55 regional blood centers operating in 1,600 counties in 40 states and the District of Columbia. The AABB has more than 600 community, hospital and private blood banks as members throughout the United States.

Between them, the ARC and the AABB draw, process and deliver about 80% of the 5,000,000 units of blood used for transfusions in the United States each year.

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PSYCHOLOGY

Human Factors Seen As Arms Control Aid

► **"SCIENTIFICALLY** derived conclusions," based on the predictability of human behavior, can lead the way to effective agreement on arms control and reverse the current trend toward war.

This is the opinion of Herbert K. Weiss, operations research specialist for Ford Motor Company's aeronutronic division, and keynote speaker at the National Symposium on Human Factors in Electronics in Washington, D. C.

Mr. Weiss warned that the present threat of a major war is "intolerably large." Dangers he listed include false signals from early warning networks; accidental nuclear explosions; accidental firing of missiles; faulty intelligence; and sudden acceleration of what starts as a "limited war."

Mr. Weiss said behavior studies should deal with "irrational" causes of war. He believes in "a credible and massive deterrent force," but not one that can be ordered to wage war "on a split-second decision."

He said one possible answer is "increasing the number of people in each country who must concur in the initiation of war," allowing time to prevent hasty and illogical action.

He also endorsed "encouraging military maturity" in nations that recently acquired advanced weapons.

"They may not realize what they have, and how dangerous it is," he said. Possibly we should help them play mock war games, so they'll know just what they can and cannot do."

He said studies of criminal behavior patterns and crime control may lead to solutions for "large-scale control" in world disarmament. Crime trends, he said, show a marked correlation with national likelihood for involvement in war, either as victim or aggressor. Also, they can be studied "less emotionally."

"It is hard to think about the population of the world being annihilated by thermonuclear war in unemotional terms," he added.

Mr. Weiss sees "no simple, obvious solution" to disarmament, but is encouraged by the number of scientists and researchers who are becoming concerned.

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EDUCATION

Teaching Machines for Correctional Institution

► **TEACHING MACHINES** will be used to teach basic skills in a correctional institution in Washington, D. C.

The National Institutes of Health has granted the American Institute for Research \$77,000 for a joint program to develop teaching machines geared to teach arithmetic and English to 350 young men between 18 and 26.

The program is designed to determine what advantages teaching machines have over teachers in stimulating these socially maladjusted young men to learn. Many who regard teachers with hostility might be more receptive to machine teaching.

Teaching machines offer information in small steps, followed by a test of that information. At every stage the learner is told whether or not he has answered correctly. The programs will be designed to elicit correct responses in a large percentage of cases.

The satisfaction of being right will likely be reinforced by material rewards at first. Later the material rewards could be withdrawn, as the young men became more interested in the learning process for its own sake.

In addition to building up basic skills, the machines will eventually be used for social education. The institute hopes that teaching machines will thus become an important factor in the rehabilitation of these young men.

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BIOCHEMISTRY

New Blood-Clotting Factor Identified

► **A PREVIOUSLY** unknown substance that causes rapid clotting of blood has been found in patients with clots in the veins and arteries of the legs, the International Academy of Pathology was told in Chicago.

Drs. C. A. Pascuzzi, J. A. Spittel, J. H. Thompson and C. A. Owen, all of the Mayo Clinic, Rochester, Minn., reported that the substance, which has been named "thromboplastin generation accelerator," or TGA, seems to be present in small amounts in normal blood. But certain patients have five times the normal amount.

For blood to clot normally, Dr. Pascuzzi explained, thromboplastin, the blood substance that drives the clotting reaction to completion, must be formed. The thromboplastin generation test measures the rate of thromboplastin formation.

Using this test, Dr. Pascuzzi's team found that in seven out of every ten patients with clots in their leg arteries, thromboplastin formation was greatly increased. The same was true for half of the patients with clots in the leg veins.

Some previously unknown factor, namely TGA, must be responsible for this abnormality, Dr. Pascuzzi said, since this phenomenon "could not be identified with any of the known blood clotting substances."

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