

MEDICINE

Prontosil "Steals the Show" At Major Medical Convention

Warning Issued That New Dye Cure for Infections Is Not a Panacea; Wheat Germ Causes Cancer

PRONTOSIL, new chemical remedy that has already saved thousands of lives and promises to conquer four of mankind's major germ enemies, held the spotlight at the meeting of the American Medical Association in Atlantic City.

This red dye and its chemical relative, sulfanilamide, were the most important and most talked-of subjects on the program and around the convention hall. They even stole a place on the program from an older remedy.

Latest disease to go down before the attack of sulfanilamide is pyelitis, serious and troublesome urinary tract infection for which there has hitherto been no very successful treatment.

Cases of pyelitis which were completely cleared up by treatment with sulfanilamide were reported by Dr. Henry F. Helmholz of the Mayo Clinic, Rochester, Minn. This was the first report of the use of the new chemical remedy for this disease.

Dr. Helmholz was to have reported results of treatment with mandelic acid, but his results with sulfanilamide were so much better and so spectacular that he made a last-minute change in his paper in order to report the sulfanilamide treatment.

Meningitis, including the particularly deadly variety due to streptococcus infection of the brain membranes, as well as pneumonia, gonorrhoea, childbed fever, and other diseases caused by streptococcus infection, all yield to treatment with sulfanilamide or Prontosil.

Hundreds of Cases

Reports of hundreds of similar cases are now ready for publication in the *Journal of the American Medical Association*, the editor, Dr. Morris Fishbein, declared.

The chemical is not an antiseptic and does not kill the disease germs. Its action apparently is to keep the germs from growing and multiplying in the patient's body. The body's own fighting forces are consequently able to overcome the infection, and the patient recovers.

Sulfanilamide is apparently particular-

ly effective in checking the growth of the round germs of the great "coccus" family. These include streptococci, pneumococci, meningococci, and gonococci. These bacteria are the causes of Type III pneumonia, for which there has been no such satisfactory serum treatment as there is in Types II and I; streptococcal meningitis, which up to now has always been fatal; gonorrhoea, for which there has never been the specific treatment that there is for syphilis; childbed fever, which has killed thousands of mothers every year in spite of all efforts to check it; and the distressing and painful disease erysipelas. All have now been successfully treated by sulfanilamide or Prontosil.

This new chemical remedy was developed by a German chemist, G. Domagk. It was first brought to the attention of physicians generally by the English doctors, Leonard Colebrooke and Meave Kenny. Its first use in the United States was by Drs. Perrin Long and Eleanor Bliss of the Johns Hopkins University. Drs. Bliss and Long told the meeting of precautions necessary in the use of the remedy.

Warning

"Sulfanilamide is not aspirin and should not be used for every Tom, Dick and Harry of an infection," Dr. Long warned physicians attending the meeting.

The wave of enthusiasm for this drug is leading to its indiscriminate use by physicians all over the country for infections with many organisms other than the hemolytic streptococci, meningococci, gonococci and pneumococci. Commenting on this, Dr. Long said he was "terrified" at the probable result. It will not help diseases due to other organisms than those mentioned above and may produce toxic effects in the patients which will bring the remedy—so useful in some conditions—into general disrepute.

Dr. Long reported that dizziness, nausea, rashes, acidosis, cyanosis and acute hemolytic anemia have followed the use of the drug in some cases. It should only

be used for proved cases of streptococcal, meningococcal and gonococcal infections and then, Dr. Long declared, only under the closest supervision of a physician.

Wheat Germ Oil Causes Cancer

For the first time a product of vegetable origin is found guilty of causing cancer. Development of cancer in white rats as a result of feeding them wheat germ oil was reported by Drs. Leonard Rowntree, George M. Dorrance and E. F. Ciccone of Philadelphia.

This discovery means that scientists must search more deeply into the possibility of diet's playing a part in causing certain types of cancer. Heretofore, there was no proof that diet has a role in cancer causation. Even if wheat germ oil is a cause of cancer, it may be so changed in the cooking of whole wheat foods that its cancer-causing ability is destroyed. This is one of the points needing further investigation.

Wheat germ oil is one of the richest sources of vitamin E, the fertility vitamin. The discovery of the oil's cancer producing power was made in the course of studies in which the Philadelphia scientists wanted to give rats large amounts of vitamin E to study its effect. The cancer-causing part of the oil is not the vitamin, they stated. It may be related chemically to the artificially made cancer-causing chemicals called hydrocarbons, to the cancer-causing chemical in coal tar and possibly to the sex hormones.

TB Preventives

The importance of seeing that children get enough food and rest as one way of protecting them from tuberculosis is often overlooked, Dr. Ralph M. Tyson of Philadelphia emphasized in a discussion of childhood tuberculosis.

Physical examinations including tuberculin tests must be made on all school children if childhood tuberculosis is to be eliminated, Dr. Tyson said.

"Long hours in badly ventilated classrooms and college lecture halls, in stores and work rooms, together with a lack of recreation, irregular meals of poor quality and insufficient quantity and insanitary living in general are mainly responsible for the spread of tuberculosis in the adolescent," Dr. Tyson declared.

Difficult as it is to restrict the activities of growing children, Dr. Tyson continued, it helps materially in the prevention of tuberculosis.

Tuberculosis caused by infected milk, he reported, is be- (Turn to Page 398)

morphological problems. Some of these specimens were obtained in prenatal stages and are expected to be especially valuable in comparative embryology.

Dr. Carpenter is still in Siam and will remain there until the rainy season sets in in July, but the rest of the group have now gone to British North Borneo to study orang-utans, gibbons and proboscis monkeys. Members of this group are Prof. Adolph H. Schultz of the Johns Hopkins University, Sherwood H. Washburn of Cambridge, J. A. Griswold of the Harvard Museum, Andrew Wylie of Washington, and John T. Coolidge of Milton, Mass., the party's photographer. Various members will later visit Java and Sumatra.

Cooperatively financed by the Carnegie Institution, the Milton and Sheldon funds of Harvard, the Columbia University Council for Research in the Social Sciences, and from several private donations, the studies are expected to provide a much-needed control for laboratory observations made of these animals.

Science News Letter, June 19, 1937

From Page 391

coming rare as a result of inspection and testing of dairy cattle and the pasteurizing and boiling of all milk.

Aid to Singers

The "vitaly important" role of the throat specialist in the training of a singer was described by Dr. Robert F. Ridpath of Philadelphia. Dr. Ridpath urged fellow throat specialists to make a special study of the art of voice cultivation. A great many "vocal tragedies" could be avoided by the informed physician, Dr. Ridpath said.

Most singing teachers try to make sopranos of all girls, he pointed out, and tenors of all men. The character of the voice, however, is determined by anatomical features that no amount of training can change, Dr. Ridpath declared. Among these are the size, shape and length of the vocal cords and especially the time of adolescence. The tenor matures early; his larynx (voice box) grows quickly and the vocal cords are short. Similarly, the earlier adolescence comes in the girl the shorter her vocal cords and the higher her voice is pitched.

The tenor and soprano are short, Dr. Ridpath pointed out. Baritones, bassos and contraltos are of large build and tall.

The general health of the singer is important and the physician should

watch this as well as the voice producing apparatus. Loss of sweetness of tone, development of a tremolo, hoarseness and shrillness are danger signals and their neglect may lead to vocal ruin.

"By periodic examinations the physician can see and sometimes forestall such conditions as inflammation of the cords, vocal nodules, relaxation of the cords and other ills that afflict singers," Dr. Ridpath concluded. "That the physician is finally called on to treat the pathological condition is to be deplored because the mischief may be beyond repair—the mechanism being permanently damaged."

Hospital Insurance Opposed

Group hospital insurance, now in effect in many parts of the country, is a first step toward state medicine. This warning appeared in a report of the association's bureau of medical economics, which has been studying this and other related problems. The danger, according to the report, lies in the fact that hospital contracts under these insurance plans cannot be limited to essential hospital services but must include medical services, such as anesthesia, clinical laboratory diagnostic tests, X-rays and radium treatments and physical therapy.

While the general public may not see danger in state medicine, the report points out two other dangers in group hospital plans that are easily seen to concern the man in the street. One is that group hospitalization is actually a form of insurance coverage, "yet actuarial data on which to base sound premium rates are not available."

The second danger is that group hospitalization plans are getting away from the original altruistic purpose of assisting persons of limited means to secure necessary hospital service and are being used as devices to fill vacant hospital beds and augment hospital income.

A post-payment plan for those really unable to pay their hospital bills, instead of the insurance prepayment plans, was recommended by the bureau. Medical societies in some communities have developed this kind of plan with an administration cost of about 10 per cent., it was explained, whereas the administration of group hospitalization plans costs from 12 to 40 per cent.

Science News Letter, June 19, 1937

There are over 400 kinds of lilacs growing in the grounds of the Arnold Arboretum, of Harvard University.

Aztec Indians of Mexico knew the poisonous black widow spider, and used an oil extracted from it in medicines.

PHYSIOLOGY

Two New Gland Hormones Affecting Sex Discovered

TWO NEW hormones, one of which brings maturity to sexually underdeveloped boys, were announced to the Association for the Study of Internal Secretions at Atlantic City.

The adrenal glands produce the new hormones, discovered by Drs. F. M. Pottinger, Jr., and D. G. Simonsen of Monrovia, Calif.

The maturing effect was discovered accidentally in the treatment of nine boys suffering from asthma. The California doctors gave an adrenal gland extract to these lads to relieve their asthma and unexpectedly found that after treatments of from three months to a year, the boys, who had all been underdeveloped sexually, all matured.

The new hormone also had a remarkable effect on a sixteen-year-old mentally retarded boy whose sexual development "was that of a new-born baby." After one month's treatment this boy's development had increased several times the original, and the boy had made a marked advance in his mental condition.

The other hormone, when tried in rats, made males more virile but caused the sex glands of females to shrink and waste away.

Cortin Helps Chronic Tiredness

Patients suffering from chronic tiredness, weakness, low blood pressure, vague digestive troubles, and minor but persistent nervous complaints were very much improved by treatment with another adrenal gland hormone, Drs. E. S. Gordon, M. S. Kimble, and E. L. Sevringhaus of the University of Wisconsin Medical School reported. The addition of from two to four teaspoonfuls of table salt to the daily diet added to the improvement brought about by the hormone treatment.

The hormone used for these patients is the recently discovered cortical hormone, sometimes called cortin, which makes life possible for Addison's disease patients, as insulin does for diabetics. The Wisconsin scientists emphasized that their work showed that other patients besides those suffering from Addison's disease are benefited and enabled to lead useful lives when given this hormone treatment.

Science News Letter, June 19, 1937

The amount of steel in use in the United States is over a billion tons, for the first time in the country's history.