

MEDICINE

Drugs Arrest Myeloma

Treatment does not cure the bone marrow disease, but temporarily arrests its course and relieves severe pain. Diamidine compounds are used.

► THE EXCRUCIATING pain of multiple myeloma is relieved and the course of this malignant bone marrow disease is arrested by treatment with two relatively new drugs and a low protein diet, Dr. I. Snapper of Mount Sinai Hospital, New York, reports in the *Journal of the American Medical Association* (Jan. 18).

The treatment does not cure the disease, Dr. Snapper emphasizes. It is temporarily checked in its development. This occurs even in cases in which the disease has been rapidly getting worse before the treatment is started.

The two drugs Dr. Snapper has used are Stilbamidine and Pentamidine. Drugs of this type, which are diamidine compounds not containing antimony, have been successfully used since 1939 to treat the tropical disease, kala-azar. Before their development, antimony compounds were used for kala-azar and for multiple myeloma, leukemia and Hodgkin's disease. The reason for using the same drugs for these different illnesses was that in all of them there may be an increase in the amount of a protein called globulin in the blood serum.

All 15 patients Dr. Snapper has so far treated with either Stilbamidine or Pentamidine and a diet low in animal protein have shown considerable im-

provement. The improvement starts soon after the treatment is started, sometimes after the third or fourth injection.

None of the 15 patients treated so far has had any relapse and all have been relieved of pain. Eleven were able to walk when discharged from the hospital. One has since died of diabetic coma, two others have died of myeloma of the kidney and thrombopenia, respectively, and one had paralysis before treatment was started.

The effect Stilbamidine has in arresting the disease may be due to changes it produces in the chemistry of the myeloma, or tumor, cells. Another investigator, Dr. M. J. Kopac of New York, has reported that this drug destroys cancerous cells of transplantable animal tumors without damaging normal cells. The shape of the nuclei of the tumor cells was changed and cell division was stopped. Dr. Kopac believed the drug had a chemical influence on certain specific nucleoproteins of the cell nucleus.

Dr. Snapper found no change of the nucleoprotein of the nuclei of the myeloma cells in his patients, but did find changes in the cytoplasm of these cells, consisting of precipitates of ribonucleic acid.

Science News Letter, January 25, 1947

AERONAUTICS

Flying Wing Progresses

► A TWIN-ENGINEED, jet-propelled, tailless plane, built in England by Armstrong Whitworth Aircraft, is now ready for tests in the air. It is a forward step in the development of true all-wing aircraft.

The plane, to be known as A. W. 52, is an experimental craft, one step in a long-term program in which the ultimate objective is a flying wing. It is a result of a five-year research, beginning in 1942 with the design and construction of a full-scale section of a wing suitable for laminar flow drag tests in a wind tunnel.

When tested, this wing section was found to have surface vibration of only

a few thousandths of an inch, and the structure weight was not more than that of an ordinary wing. Further, it was found that the profile drag of the wing section was only half that of standard wings.

The next step taken was the construction of a tailless glider with a 53-foot span and a weight of three tons. After testing the performance of this in the air for some 200 hours of flying time, the A. W. 52 was constructed. It is an all-metal plane with a span of 90 feet, a weight of 15 tons, and a wing area of 1,314 square feet. It is powered by two Rolls-Royce Nene jet engines.

A second version of the A. W. 52, now

under construction, will be powered by Rolls-Royce jet engines of a lighter type. With these there will be no exposed engine nacelles. With the engines completely buried within the body, a further aerodynamic advantage is gained.

Plans for the true all-wing plane are making progress. It will probably weigh about 88 tons. Engineers calculate that this size will be necessary in order that the power units, crew, passengers, freight and fuel may all be contained within the outline of a perfect wing form.

Science News Letter, January 25, 1947

MEDICINE

New Medical Practice Era Predicted for Near Future

► A NEW ERA in medical practice coming in the near future was predicted by Dean Willard C. Rappleye of Columbia University's College of Physicians and Surgeons in his annual report to the University's president.

The era will be marked by gradual changes in the fundamental form of medical practice. Dr. Rappleye foresees the general community hospital as the future center of all health services, including dentistry. In addition, he believes specialized, tax-maintained hospitals will be needed for conditions such as tuberculosis, cancer, other chronic, incapacitating illnesses, contagious diseases, mental disorders and the crippled and handicapped. General hospitals for the indigent are "recognized almost universally as the responsibility of the government," he added.

The establishment of sound hospital group practice units where needed throughout the country will, in his opinion, have a particular bearing on the important question of the distribution of physicians. This better distribution of physicians, not producing more physicians, is the answer to the problem of providing proper medical services, he declared.

Such units, he pointed out, will prevent what is perhaps our greatest waste of medical manpower under the present set-up, the period of five to 10 years after completion of hospital training when younger physicians are only partly occupied in the early stages of practice. They could be completely occupied if they practiced in small communities or rural districts, but they will not go into such communities unless modern facilities for practice, such as the hospital group practice unit offers, are available.

Science News Letter, January 25, 1947