

# medical sciences

## INTERFERON

### Virus disease cured in rats

New evidence of the effectiveness of interferon against virus diseases, including virus pneumonia, hepatitis, influenza and some types of the common cold, is reported by two scientists in the Nov. 15 issue of *SCIENCE*. Application of the animal research to humans, however, will take at least five years.

Drs. John H. Park, a New York Medical College ophthalmologist, and Samuel Baron of the Institute of Allergy and Infectious Diseases, Bethesda, Md., used double-stranded synthetic RNA to treat rabbits that were infected with herpes simplex keratoconjunctivitis, an inflammation of the eye that can be fatal. The virus is related to the one that causes cold sores.

The ribonucleic acid, or RNA, stimulated the animals' production of interferon (SN: 5/18, p. 473), a natural fighter of virus. The treated rabbits recovered.

## HEMATOLOGY

### Detergent coats blood particles

A commercial detergent, Pluronic F68, has been found to coat and protect red blood cells, blood proteins and other components from damage caused by heart-lung machines, a team of Denver researchers says.

Dr. Frederick L. Grover, who reported at the 41st annual scientific sessions of the American Heart Association in Bal Harbour, Fla., predicts that the detergent could also prove effective in treating such circulatory disorders as frostbite. In this condition, red blood cells tend to sludge and thus cut off the blood flow to cold-exposed areas.

Another possibility is that Pluronic F68 could help in blood-clotting disorders, inasmuch as it inhibits the natural stickiness of blood platelets.

Since the extent of blood damage is the factor that limits the time a patient can be kept safely on a heart-lung machine, the detergent may provide a way to give the surgeon more time to perform difficult open-heart operations.

Tests on animals show that they can be maintained on heart-lung machines for as long as six hours, as compared with an average of one, and at most, two hours when Pluronic F68 is not used. The team did the research at the University of Colorado.

## TRANSPLANTS

### Human bone marrow injected

Within hours of each other, two scientists successfully transplanted bone marrow in humans.

Dr. Fritz Bach of the University of Wisconsin and Dr. Robert Good of the University of Minnesota believe that their work could lead to a cure for leukemia, cancer of the blood-forming organs.

The date of both achievements was August 24, but the researchers delayed reporting the transplants until November.

At the University of Wisconsin, where the research was sponsored by the National Institutes of Health, the U.S. Public Health Service, the Office of Naval Research

and the American Heart Association, the physicians used a new tissue-typing method. The bone marrow of a nine-year-old girl was injected into her two-year-old brother, who was about to die. The boy, David Zeissett, son of Mr. and Mrs. Donald Zeissett of Chatham, N.Y., was unable to produce blood platelets and certain antibodies that fight infections in the body.

His illness is known as the Wiskott-Aldrich syndrome, a genetic marrow disorder. He had reached the point where he required blood transfusions every other day.

The transplant in Minneapolis was done on an eight-month-old infection-prone infant from a New Haven, Conn., suburb. Dr. Good headed a four-man team which took about two ounces of bone marrow from the boy's eight-year-old sister and implanted it with a needle into the baby's abdominal cavity.

## VIRUS

### Mumps affect fetal development

If a woman has not had mumps, it might be a good idea to have a shot of the new mumps vaccine before she becomes pregnant.

Studies reported at the American Heart Association scientific sessions in Bal Harbour, Fla., had been experimentally conducted in fertilized chicken eggs. (Chickens are susceptible to mumps.)

The research, which was reported by Dr. George Noren of the University of Minnesota School of Medicine, Minneapolis, involves the injection of mumps virus into chicken eggs 12 hours after fertilization—at the time when no organ of the fetus is yet fully developed. Eighteen days later, three days before hatching time, the injected fetuses showed evidence of inflammation of the heart muscle, called myocarditis, and inflammation of the brain, or encephalitis. The scientists had previously suspected a relationship between mumps virus and a disease called endocardial fibroelastosis, a leathery thickening of the membrane lining the inner walls of the heart, especially that of the left ventricle, the main pumping chamber. It is not a frequent happening, as it only occurs in one of every 10,000 human births, but it is fatal in about half the cases during the first year of life.

## CONTRACEPTION

### Risks of phlebitis, thrombosis

Indications that women using oral contraceptives have an increased risk of superficial phlebitis, pulmonary embolism, deep-vein and possibly cerebral thrombosis are reported by two scientists at the National Institutes of Health, Bethesda, Md.

Dr. Robert E. Markush of the National Institute of Neurological Diseases and Blindness and Dr. Daniel E. Seigel of the National Institute of Child Health and Human Development told the American Public Health Association meeting in Detroit that case-control studies in England during the past year suggest this risk, and the researchers report recent underlying mortality trends.

Statistics published in the United States agree with the British studies. But death rates for coronary disease are not appreciably higher among women taking oral contraceptives than among those who do not use them.