

GENETICS

Find Extra Chromosome

► AN EXTRA CHROMOSOME in a mentally retarded 21-year-old woman with minor congenital abnormalities has been reported by researchers at the Roswell Park Memorial Institute, Buffalo, N. Y.

The first description of the finding of an extra chromosome among the six largest chromosomes is given by Dr. Avery A. Sandberg, Lois H. Crosswhite, and Dr. Edwin Gordy in the *Journal of the American Medical Association*, 174:221, 1960. Chromosomes, located in the nucleus of the cell, contain genes which determine hereditary traits.

Each normal human being has 46 chromosomes—22 pairs of autosomes and two sex chromosomes. Half of the chromosomes come from the mother and half from the father at the time of conception.

There have been previous reports of an extra chromosome among the smallest chromosomes in persons with mongolism, a specific type of mental retardation, and of an extra chromosome of medium size in children with congenital defects.

"From the present findings it follows that trisomy (an extra autosome) is associated with various congenital defects . . . depending on the chromosomes involved and the resulting impact on over-all genic

balance (the distribution of genes)," the researchers said.

It had previously been surmised, the authors said, that on the basis of gene content, the larger the extra chromosome, the more lethal and complicated the associated abnormalities would be.

However, they said, "the finding in our case would seem to indicate that there may not be any significant correlation between the size of the chromosome involved in trisomy and the extent and number of congenital abnormalities."

They added the trisomy in itself may not always result in obvious congenital defects since a case has been reported of an apparently normal father with 47 chromosomes who had a mongoloid child.

In the case reported, the main physical defects include webbing of the skin around the neck and flatness of the back of the head. The young woman's I.Q. was about 40, but she possessed a good memory for certain events and for numbers.

The extension of chromosomal studies in patients with mental retardation and other congenital defects should aid in establishing genetic distinctions within groups of superficially similar syndromes.

• Science News Letter, 78:212 October 1, 1960

MEDICINE

Female Pills Safe for Men

► SMALL TO MODERATE DOSES of estrogens (female hormones) can be given to men who have had heart attacks without making them effeminate or causing other undesirable effects.

Reporting in the *Journal of the American Medical Association*, 174:241, 1960, four Los Angeles doctors say that long-term therapeutic use of female hormones for men has been found to be "entirely feasible."

This conclusion is reported by Drs. Jessie Marmorston, Oscar Magdison, Oliver Kuzma and Frederick J. Moore. They base their findings on a study of 109 men, ranging from 35 to 83 years of age, who were treated with estrogens for a total of more than 900 months.

All the patients had suffered heart attacks (myocardial infarctions) as a result of hardening of the coronary arteries surrounding the heart. A high content of fats in the blood may be involved in the development of hardening of the arteries, so the female hormones were administered to reduce the blood fat levels.

The ability of estrogens to reduce fats in the blood is well known but their use for men has been limited because they have been known to cause feminization.

The authors say their findings indicate clearly that the long-term investigative administration of small to moderate doses of estrogen to men with myocardial infarction is warranted.

Each patient was started on a small dose that was increased little by little over a considerable period of time.

There was pain or tenderness of the breast as an early manifestation in every case, the researchers said. But of 44 patients available for observation for some months after this symptom appeared, 15 tolerated the same dosage thereafter and 17 tolerated an even greater dosage. In only 12 was it necessary to reduce the dosage, they said.

With this gradual approach to tolerance, the physicians said, clinical side-effects have presented no obstacle to continuation of the treatment.

• Science News Letter, 78:212 October 1, 1960

PUBLIC HEALTH

Fall's Dreaded Weed Victimizes One in 15

See Front Cover

► THE MALE, pollen producing flower of the ragweed, seen on the cover of this week's *SCIENCE NEWS LETTER*, is the culprit that victimizes one out of every 15 persons in the Eastern and central United States.

The staminate flowers, projecting from the "cups," drop hundreds of pollen grains onto the leaves of the ragweed and other nearby plants.

Here the pollen sticks until the wind car-

ries it away and scatters it in the air as a potential source of autumnal catarrh or hay-fever, Dr. Warren H. Wagner, Jr., reports from the Cranbrook Institute of Science, Bloomfield Hills, Mich.

The major part of the atmospheric pollen load in August, September and October comes from ragweeds.

Dr. James A. McLean, allergist at the University of Michigan Medical Center, has warned that hay fever can lead to asthma for about a third of today's sufferers if they relieve only the symptoms and do not attack the causes. He said anti-histamines and trips to low-pollen areas do not prevent a hay fever victim's progression into an asthma victim. However, this may be stopped by injections of the substance the patient is allergic to, Dr. McLean said.

• Science News Letter, 78:212 October 1, 1960

SCIENCE NEWS LETTER

VOL. 78 OCTOBER 1, 1960 NO. 14

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: SCIENSERV.

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.

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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.



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