

medical sciences

EPILEPSY

A vicious circle

Drugs given to prevent epileptic seizures produce a certain degree of mental deterioration because they lower the level of folate chemicals in the patients' blood. Giving the patient folic acid will raise the folate level, but it also depresses the level of vitamin B-12, and depressing the B-12 precipitates convulsions.

A British physician, Dr. C. Neubauer, recommends initiation of folic acid, B-12 therapy at the time anti-convulsants are prescribed for epilepsy. He observed the effects of this therapy in 50 epileptic children who were institutionalized and suffered severe mental deterioration. They had been on anticonvulsants for years.

In the June 27 issue of the *BRITISH MEDICAL JOURNAL*, the clinician reports some improvement in the mental condition of 22 of these children. Of the 28 who showed no change, 12 had fewer and less severe seizures. In no instance did the child's convulsions increase, and treatment was continued for each.

Duration of treatment before improvement varied from five to eight weeks for the younger children, while it required longer for improvement in the older ones. In one instance, improvement was noticed after 26 weeks. When the initial dosage was reduced to a maintenance level, several of the children experienced a return of symptoms.

ALLERGY

Fungus in the air conditioner

Four people who worked in the same office building in Milwaukee became ill with symptoms that included high temperature, difficulty in breathing and chills. X-rays showed changes in their lung tissue.

At the request of an executive who had been sick for months, a team of physicians from the Marquette School of Medicine and Dr. Jordan N. Fink of Wood Veterans Hospital investigated the building. In cultures of dust and water from the building they found a mold called *Mycropolyspora faeni*, which is known to thrive in haystacks and causes a condition known as farmer's lung, characterized by dry coughing and breathlessness.

Tests of the patients from the office building showed antibodies to the mold. Eight other employees, who had not shown symptoms, had also developed antibodies. The executive who had called the doctors had been working in another building and was no longer suffering the symptoms, but when he was tested for reaction to the mold, he developed all the symptoms again.

The air-conditioning system in the building has been altered so that water cannot accumulate, and the mold has disappeared. The same mold has also been found in many heating systems.

DENTISTRY

Preventing tooth decay

Dental caries may be completely preventable by 1980 if a technique developed by Dr. Michael Buonocore of the Eastman Dental Center in Rochester, N.Y., works as well in large-scale practice as it does in experiment.

Dr. Buonocore's technique uses a plastic sealant,

similar to nail polish, to coat the teeth. The sealant is especially good for coating pits and fissures, where caries often develops but fluoride treatment does not reach. After it is painted on the teeth, the sealant is hardened by shining an ultraviolet flashlight on it.

In a test involving 60 children, Dr. Buonocore treated half of each child's teeth with the sealant. A year later, he found no caries in the fissures of the treated teeth. In the untreated teeth 42 percent of the fissures developed decay.

The sealant is now being tested on large numbers of school children in Kalispell, Mont., and at the Coast Guard Station on Governor's Island in New York.

DRUG ABUSE

Effects of heroin

Roughly one injection of heroin in 100,000 is fatal, with death usually occurring quite suddenly. Autopsies performed on a random sample from more than 800 such deaths in New York City frequently revealed cerebral edema.

Many more individuals do not die, but become delirious or comatose following an injection of heroin. In a study of such patients at the Harlem Hospital Center, Dr. Ralph W. Richter examined the cerebrospinal fluid and found elevated pressure, which is indicative of cerebral edema.

Dr. Richter is collaborating with Dr. John Pearson, an associate medical examiner in New York, in an investigation of the edema and its possible cause. They are attempting to reproduce the edema in laboratory animals as well as continuing this study of addicts who have very sudden, adverse reactions to the injections of heroin mixtures.

Further research will correlate this finding of edema with either heroin itself or with another component of the injection, such as quinine.

SMOKING

Men down, women up

While many men are quitting smoking, increasing numbers of women are taking it up, according to a study just released by the U.S. Public Health Service. The study shows that the proportion of United States males over 18 who smoke decreased from 56.9 percent in 1955 to 50.7 percent in 1966. During the same period women who smoke increased from 28.4 percent of the female population to 32.9 percent.

The research, by Paul I. Ahmed and Geraldine A. Gleason, also indicates that women start smoking earlier in life than they used to. Comparing women who were between 18 and 24 years of age in 1966 with those who had been in that age group in 1955, they found that four times as many of the 1966 group had started smoking by age 15 as had done so in the 1955 group. Of the women who were smokers, 29.9 percent started by age 18.

The decrease in men who smoke cigarettes took place in the group under 55 years of age; the increase in women smokers occurred in all age groups. Of all the men in the survey who had ever smoked, about 25.7 percent were nonsmokers in 1966, compared with 16.4 percent of the women who had ever smoked.