

medical sciences notes

CARCINOGENS

Smokers' placentas show enzyme activity

The effect of cigarette smoking on pregnant women and their offspring has been studied for some years but researchers now have shown for the first time that "compounds present in cigarette smoke can induce an enzyme in human tissue capable of metabolizing the carcinogen BP." This means 3,4 benzpyrene, which causes cancer.

BP and several other polycyclic aromatic hydrocarbons are environmental carcinogens present in polluted city air, certain smoked or cooked foods and tobacco smoke.

A study of 23 placentas shortly after childbirth revealed that only the placentas of the 11 women who smoked cigarettes showed the induction of appreciable enzyme activity.

Because of the variability in this activity among smokers, further studies will be done to find out whether the discovery is of value in "estimating the relative hazards faced by people exposed to these carcinogens."

The investigators say the induction of the BP enzyme "may be a mechanism whereby people protect themselves and their fetuses from environmental carcinogens."

Drs. R. M. Welch, Y. E. Harrison and A. H. Conney of Wellcome Research Laboratories, Tuckahoe, N.Y., and Drs. P. J. Poppers and Mieczyslaw Finster of the department of anesthesiology, College of Physicians and Surgeons, Columbia University and Presbyterian Hospital, New York City, report the research in the May 3 issue of SCIENCE.

RADIATION

Fertilization minimizes fallout

Cow's milk carries less strontium 90 and iodine 131 if farmers use fertilizer on the pasture.

Fertilized plants grow larger and more rapidly so that the fallout is distributed through a larger mass and results in smaller concentrations per unit of weight.

Dr. Wayne E. Black, chief of laboratories for the St. Louis, Mo., County Health Department, and Dr. Warren G. Hansen, associate professor of bionucleonics at Purdue University, Lafayette, Ind., report the research.

INFLUENZA

Spray superior to shots

Dead flu viruses sprayed directly into respiratory tracts are superior to standard shots in protecting a person against influenza, a University of Florida doctor reports.

Results of tests on more than 2,000 prisoners showed the spray gives greater protection during a flu epidemic, shorter time of illness for those that became ill, lowered incidence of side effects and greater ease of administration than the shots.

Dr. Robert H. Waldman, postdoctoral fellow in the department of microbiology at the university, told the American Federation of Clinical Research meeting in Atlantic City, N.J., that he gathered his data during the

Asian flu epidemic that hit the Florida State Prison at Radford in January. Earlier this year, Dr. Waldman and his colleagues had found that the spray vaccine produced antibodies in the respiratory tract. The spray was 79 percent effective against the epidemic that struck the prison, whereas flu shots were only 23 percent effective. Only eight volunteers of the 320 men receiving the spray became ill with flu—a percentage of 2.5 percent. Of these eight, five were well by the third day.

The National Institutes of Health supported the research.

CONTRACEPTION

Estrogen's affect eyes

Wearers of contact lenses face complications if they are taking oral contraceptives or if they become pregnant, the AUSTRALIAN JOURNAL OF OPTOMETRY says.

Both pregnancy and the pill reduce the lubricant quality of the tear layer between the lens and the eye and corneal metabolism is upset. Tests have shown, however, that if the contact lenses are well fitted there is little chance of severe complications.

It is usually in cases where the pregnancy is not progressing normally, either with or without the knowledge of doctor or patient, that problems with the lenses occur.

In one case, a patient said her contact lenses caused pain and that she could hardly open her eyes. She assured her physician that she had not been taking the pill and that she was not pregnant.

A few days later the puzzle was solved when she had a miscarriage, disclosing that she was three months pregnant.

ETIOLOGY

Cancer-alcoholism link suspected

A long-suspected relationship between alcoholism and cancer of the head and neck will be studied through complete examinations of alcoholics admitted to the Downstate Medical Center of the State University of New York in Brooklyn.

The object of the pilot study, financed by the Cancer Control Program of the Public Health Service, will be to determine to what extent protein deficiency, vitamin deficiency, liver disease and other factors associated with alcoholism stimulate the development of cancer and precancerous sores of the mouth, oropharynx and larynx.

Dr. William L. Ross, chief of the cancer control program, says mouth and chest X-rays will be taken, all abnormalities of the head and neck area will be charted and tissue smears taken from each site of an abnormality. A biopsy will be performed on each lesion which yields a positive or suspicious tissue specimen. Numerous blood chemistry tests along with saliva specimen examinations will be made.

Each patient will be interviewed to obtain data concerning his drinking and smoking habits, along with individual factors including ethnic background, sex, age, education, income and employment.