

Medical Sciences Notes

GYNECOLOGY

Mode of IUD Action Still Mystery

Intrauterine devices prevent conception in rhesus monkeys, but experiments in Birmingham, England, fail to reveal their mode of action. How the coil affects the egg in humans has long been studied—equally without satisfactory conclusions.

It is possible that in women, as in the monkey, an IUD exercises its contraceptive action in the womb and not in the fallopian tubes as some have believed.

One report suggests that the rate of egg transport through the fallopian tubes is speeded up in the presence of an IUD, which would explain the low incidence of tubal pregnancies among wearers of the device.

But Drs. W. A. Kelly and J. H. Marston of the Medical School, Birmingham, whose 1967 report appears in the May 13 issue of *NATURE*, found that eggs enter the uterus normally when monkeys are fitted with an IUD. Once in the uterus, however, the eggs undergo rapid degeneration or premature expulsion, or both.

"Whether, in fact, this site of action can be established will depend on the results of extensive, well-planned, clinical research," the investigators conclude.

CHEMOTHERAPY

Toad, Octopus May Help Hearts

Chemicals found in an octopus and a toad are undergoing preliminary tests to determine whether they could be used to treat heart disease in humans.

The two chemicals are in the class known as polypeptides, which are composed of short chains of amino acids—the sub-units of protein.

The aim of the research, reported in Montreal by Dr. Aurele Beaulnes, director of pharmacology at The University of Sherbrooke, Sherbrooke, Canada, is to synthesize one drug that will both control blood pressure and correct the irregular beat that often heralds or follows a heart attack.

One of the chemicals, called eledoisin, comes, so far as is known, only from the salivary glands of two species of octopus found in the Bay of Naples. It has been tested on a few human volunteers in Italy, but Dr. Beaulnes believes further laboratory tests such as he has made should be conducted before the chemical is tried again on humans.

The other chemical, which is found in the skins of South American toads, is known as physaleamin. It is 10 times as potent as eledoisin.

Dr. Beaulnes is doing his research with animals and with heart muscles kept alive outside animals.

SEXOLOGY

Drunken Roosters Turn Maternal

It takes only one shot of alcohol to turn an aggressive rooster into a hen-like creature that shelters newly hatched chicks all night long.

Cocks that drink water instead of alcohol either avoid the baby chicks or attack them, Dr. Joseph K. Kovach of the Menninger Foundation, Topeka, Kans., reports in the May 12 *SCIENCE*.

Former experiments have shown that injections of the hormone prolactin cause male birds to behave maternally, but Dr. Kovach believes the effect is not caused by inhibition of a male hormone. As with alcohol, he says, it is possible that the reaction is related to a temporary depression of avoidance and aggressive response.

TOXICOLOGY

Some Foods Contain Poisons

Ordinary foods such as potatoes, lima beans, cauliflower, turnips and rutabagas contain natural poisons, a National Research Council report points out. But a daily diet of about 22 pounds of cauliflower, for instance, would be required to yield a dangerous level of the goiter-producing substance, thiocyanate.

Bananas, pineapples, tomatoes, some cheeses, lemon and wine contain large amounts of toxic amino compounds, enough to have disastrous consequences if they were injected into the veins. But they are not injected.

Among the factors believed responsible for making these amino compounds harmless in foodstuffs is detoxification after consumption through the action of a naturally occurring human enzyme, monoamine oxidase (MAO). Severe complications, even death, have been reported among persons who ate aged cheese while being treated with a MAO-inhibiting tranquilizer, Par-nate.

Further study is recommended by the Food Protection Committee of the Council to find out the possible long-term harmful effects of food chemicals that can produce tumors and cancer as well as those that can cause goiter.

DENTISTRY

Decayed Teeth Prevalent in Women

American women have more tooth decay than men do, a Public Health Service report reveals.

Other findings reported in the booklet just released by the National Center for Health Statistics on "Decayed, Missing and Filled Teeth in Adults, United States, 1960-62":

Negro adults had only two-thirds as many DMF teeth as white adults.

Men with incomes of \$10,000 and above had 19 DMF teeth apiece, but men with wages below \$2,000 averaged only 15.3 decayed, missing and filled teeth.

Educationally, women with less than five years of schooling had 15 DMF teeth per person, while women with at least one year of college had an average of 19.3 decayed, missing and filled teeth.

Further studies must be conducted to discover the reasons for the statistical figures.

"We just counted teeth," a PHS official explains.

DIAGNOSTICS

Kidney Disease Diagnosed by Foil

Strips of aluminum foil placed on the skin of the back are helping doctors in Temple, Texas, to diagnose kidney ailments. The foil picks up subtle changes in electrical signals thrown off by a decreased blood flow through diseased kidneys.

Dr. Robert D. Allison of the Scott and White Clinic says the technique has been used on more than 2,000 patients, and that the results are comparable to diagnostic achievements of more traditional methods.

He uses a special instrument called a plethysmograph that is able to detect electrically the small changes in blood volume without the risk of shock caused by modification of the kidney circulation that sometimes occurs with angiography, an X-ray method in which radioactive dyes are injected into the kidney bloodstream.

The report is published in the May 12 issue of *MEDICAL WORLD NEWS*.