

Estrogens' Double Life

Physicians are prescribing for morning-after birth control a variety of compounds designed for other purposes

The Food and Drug Administration lays down the law for drug companies, telling them what they can and cannot claim their products will do. But it has no authority over a physician's prescribing habits. Hence, a drug can lead a double life. Dilantin, for example, approved for treating epilepsy and certain psychoses, is sometimes used to reduce senility in the elderly. Recently the female hormones called estrogens joined the list of drugs marketed for one thing and occasionally prescribed for another—preventing pregnancy when taken after intercourse.

While researchers work to perfect such a morning-after birth control pill—and probably won't see the results on the commercial market for at least five years—many physicians prescribe drugs that perform that function.

Drugs used for detecting pregnancy, treating breast cancer, easing women through menopause and preventing natural abortions are doubling as morning-after pills. All of these drugs contain potent estrogens which, in massive doses, interfere with pregnancy by blocking implantation of a fertilized egg in the uterus. They are effective only during the first five or six days after intercourse, before implantation takes place.

In limited trials with women, Yale University researchers last year demonstrated that an estrogen compound called diethylstilbestrol—approved for a variety of other purposes—is an effective morning-after drug. Patient use during the year since that initial report confirms the fact that 25 milligrams of diethylstilbestrol are 100 percent effective

in preventing pregnancy when taken within six days after intercourse, according to Dr. John McLean Morris, who headed the team. Other estrogen compounds are also effective in proper doses. Even the combination estrogen-progesterone oral contraceptives may be effective if a month's supply is taken at once, he says, but it's not to be recommended lightly.

None of these drugs are available without a doctor's prescription; frequent use is considered hazardous, and the drugs should not be taken without close medical supervision.

Although the FDA prohibits drug companies from advertising or even recommending estrogens as morning-after pills, private physicians may prescribe them as they see fit. "FDA regulates the drug industry, not the practice of medicine," an FDA official says.

In spite of the fact that research scientists and a growing number of physicians recognize the role of estrogens as after-the-fact birth control agents, it is by no means common knowledge, Dr. Morris observes.

Though none of the experts suggest that current or future morning-after pills will ever replace other methods of contraception, they find them extremely valuable in emergency cases. "When a coed who hasn't planned to have sexual relations fears she may be pregnant, massive estrogen therapy may be a preferable alternative to an illegitimate child or an abortion," Dr. Morris believes.

TORREY CANYON

Silicones could have saved sea life

The British Government will soon receive a report telling it how to avoid the needless slaughter of sea-birds and marine life if there is ever another tanker sinking like that of the "Torrey Canyon" (SN: 9/2).

It will reveal that those who, in expediency, dumped nearly two million gallons of toxic detergent into the sea after the "Canyon" broke up off Land's End last spring, had no regard for the birds, fish or shore creatures. The mass slaughter-by-detergent has led to a thorough investigation and to the discovery of toxic fractions in detergents. This identification has led to research toward less poisonous detergents.

The study also reveals that no detergent will ever provide the answer to marine oil pollution. It shows that detergents are equally unsuited for cleaning out the tanks of sea-going vessels.

In combatting any problem as large as oil pollution the main difficulty is finding cheap and easily available materials. Such materials must in themselves be biologically inert, capable of

When used in such situations, large one-time doses of estrogens are both safe and effective, though they are likely to produce nausea and vomiting. Frequent or continuous usage, however, is dangerous, making morning-after therapy unacceptable as a substitute for contraception.

Even though doctors have found dose levels of some available estrogen compounds which will work to prevent pregnancy, there are no standard dosages, as there would be for a drug designed and cleared for the purpose.

Dr. Morris and his colleagues have reported on one experimental compound designed specifically to be a morning-after pill. Called ORF 3858, the synthetic estrogen-like drug has been successfully tested in monkeys. There can be no human trials until its manufacturer, Ortho Pharmaceuticals, Raritan, N.J., submits a new drug application to the FDA. So far, Ortho has not done so, though FDA officials have privately indicated chances for approval are good. However, they cannot commit themselves until all evidence is in and reviewed.

Other drug companies, whose products physicians cite specifically as useful the next morning, have not officially sought FDA approval for expanded usage. Among these are Lilly and its Diethylstilbestrol; Schering and Estinyl, a menopausal drug; and Squibb and its Gestest which is used to diagnose pregnancy. ♦

gathering oil and ultimately degrading it back to its basic proteins.

Research work at Cardiff University has developed a scheme which appears to have all the advantages called for, without any serious weaknesses. The answer is "use silicones."

The word "silicones" covers a range of chemistry second in complexity only to the chemistry of carbon. Silicones can be, and are, tailored to requirements, and their full usefulness is only beginning to be realized.

But long ago a range of silicones came into use as waterproofing agents. If a finely divided material such as fly ash (of which many thousands of tons are produced by power stations every day all over Britain) is treated with gaseous silicones during its flow from storage to transportation vehicle, 100 percent surface coverage can be obtained at low cost.

Used by itself on an oil slick in a ratio of about two to one by weight, the fly ash will absorb the oil while rejecting water and ultimately sink.