

# New Use for the French 'Abortion' Pill

The controversial drug RU 486 made headlines several years ago for its ability to induce abortion during the first trimester of pregnancy. Now, a Scottish study suggests that RU 486 has another use — as a “morning-after” pill. The new findings indicate the drug can safely and effectively prevent pregnancy when taken soon after a woman has had sexual intercourse.

“I think this article is going to irrevocably change the political landscape of RU 486 in the United States,” says David A. Grimes, an obstetrician at the University of Southern California School of Medicine in Los Angeles. “It has defined a potential new application for RU 486 that will shift the debate away from its use as an abortifacient.” Grimes believes that such a shift will help ease the tensions surrounding the use of RU 486 (SN: 2/17/90, p.100).

“This is a very, very important study,” agrees Irving M. Spitz of the Population Council in New York City. However, Spitz says it is hard to predict how the new findings will fare in the fray over abortion in the United States.

Nobody really knows how RU 486 prevents pregnancy, says lead researcher Anna Glasier of the University of Edinburgh in Scotland. In some cases, the drug may suppress ovulation. In other cases, RU 486 prevents the fertilized egg from implanting in the lining of the uterus, the first step of a pregnancy, Glasier says. When used as an abortifacient, RU 486 helps trigger the expulsion of an established embryo or fetus, she explains.

Glasier and her Scottish colleagues began their study by recruiting 800 women and teenagers who had come to an Edinburgh health clinic requesting emergency contraception after having had sex within the preceding 72 hours. The team randomly assigned 398 to receive the standard morning-after therapy, which consists of high doses of both the sex hormone estrogen and a synthetic version of the sex hormone progesterone. The remaining 402 recruits got RU 486, which is also known as mifepristone.

The researchers report that none of the women in the RU 486 group became pregnant, in contrast to four of those in the standard therapy group. Although the difference between the two groups was not statistically significant, Glasier believes that a study that includes more subjects will show RU 486 to be much more effective than the standard regimen. The number of pregnancies in each group was significantly lower than the number expected based on the day of the menstrual cycle during which sex had

taken place, Glasier says. Without treatment of any kind, about 23 women in each group would probably have become pregnant, she adds.

The team also found that women who received RU 486 suffered from fewer side effects such as nausea and vomiting than did recruits on the standard regimen. Young women may prefer the single-dose RU 486 over the standard regimen, which requires more than one dose of nausea-causing hormone pills, Glasier adds. The Scottish researchers report their data in the Oct. 8 *NEW ENGLAND JOURNAL OF MEDICINE*.

The researchers also discovered that women and teens who received RU 486 were more likely to report having a delayed menstrual period. Although not harmful, such a lag can alarm a woman, creating worry that her post-coital contraception has failed, Grimes notes in an editorial accompanying the research report. He suggests that women in such a predicament can turn to widely available pregnancy tests to allay their fears.

The editorial notes that RU 486 is

currently approved for use in France, the United Kingdom, Sweden, and China. So far, the drug has faced bitter opposition in the United States from antiabortion groups, who object to RU 486's use as an abortion pill, Grimes notes. As a result, the drug is likely to remain off-limits to women in the United States for any purpose — at least for now, says Gabriel Bialy, a contraceptive expert at the National Institute of Child Health and Human Development in Bethesda, Md.

A French pharmaceutical firm (Roussel Uclaf Company) developed RU 486 in the 1980s. However, Roussel Uclaf will not submit a new drug application to the U.S. Food and Drug Administration without government support of abortion, Grimes says. Thus U.S. women do not have access to RU 486 as an abortifacient or as a morning-after pill, he says. In fact, they have access to the standard regimen for post-coital contraception only because estrogen and other drugs used for that purpose are already approved by FDA for other indications, he adds.

— K.A. Fackelmann

## Devils Hole heats up debate over ice ages

For the last 15 years, most climate researchers have looked to space for an explanation of the ice ages that have repeatedly gripped our planet in recent geologic times. The established theory, called the Milankovitch hypothesis, holds that wiggles and wobbles in Earth's orbit serve as a pacemaker that determines when the planet plunges into a glacial period and when it thaws out of one. But new evidence from a deep crack in the Nevada desert threatens to overturn the Milankovitch theory and replace it with a more down-to-Earth solution.

Geoscientists report this week that the ice ages did not follow any pattern consistent with orbital variations. Rather, chaotic elements in Earth's own climate dictated when the planet slipped into and out of a deep freeze, the researchers suggest.

“We feel that the Milankovitch theory is incapable of explaining the climate shifts,” says Isaac J. Winograd of the U.S. Geological Survey in Reston, Va. He and his colleagues discuss their findings in two papers in the Oct. 9 *SCIENCE*.

The climate information collected by Winograd's group comes from Devils Hole, an open fault zone in southwestern Nevada. The fissure is filled with mineral-rich water that has coated the rock walls with layer upon layer of calcite over the last 500,000 years. Divers equipped with scuba gear entered the fault and used a

drill to cut a 36-centimeter-long cylinder out of the calcite coating.

By analyzing the ratio of two isotopes — oxygen-18 and oxygen-16 — at hundreds of spots along the calcite core, Winograd and his colleagues identified changes in the temperature of the atmosphere when rain fell in the Devils Hole region. They dated these climate shifts by using the radioactive decay of uranium within the calcite as a clock. Previously, they had drilled a core that recorded information going back 250,000 years (SN: 12/3/88, p.356). The new core doubles the length of that record.

Scientists who study the glacial cycle have traditionally relied on climate records constructed by measuring the oxygen isotopes in seafloor sediments. But the dates of the climate events in these marine records are less certain than those in the Devils Hole core.

The idea that ice ages result from alterations in Earth's orbit goes back to the 19th century. However, the theory did not enjoy widespread support until 1976, when oceanographers analyzed two marine records and found that the glacial cycle closely matched changes in the shape of Earth's circular orbit, the tilt of the planet, and the way its axis wobbles.

The marine records led researchers to suggest that these orbital variations paced the climate changes by altering the amount of sunlight reaching the sub-