Biomedicine

RU 486: Headed for the United States?

Late last month, Roussel Uclaf, a French pharmaceutical firm, agreed to give up U.S. patent rights to the abortion pill known as RU 486 (mifepristone). Roussel donated the drug's U.S. rights to the Population Council, a nonprofit contraceptive research group based in New York City. The move is expected to pave the way for marketing the pill in the United States. RU 486 is widely available in France, Britain, Germany, and Sweden.

Roussel had been reluctant to bring RU 486 to the United States because of opposition by the antiabortion movement. The Clinton administration is credited with urging the French firm to work out an agreement with the Population Council.

Officials at the council say they will begin conducting clinical trials of RU 486, a step necessary to gaining Food and Drug Administration approval. The council is already searching for a drug company to manufacture and distribute the drug in the United States. Despite the controversial nature of the pill, the group has already received calls from interested pharmaceutical firms, says the Population Council's Sandra Waldman.

RU 486 works by blocking the action of progesterone, a hormone required to maintain pregnancy. Women must return to their doctor's office within 48 hours of taking the drug to get a dose of prostaglandin, which triggers the expulsion of the embryo or fetus.

The drug still faces formidable opposition. This week, a coalition of antiabortion groups launched a campaign to keep this drug from being marketed in the United States.

Fatal breast cancer and smoking

Although women who smoke face a slew of health problems, breast cancer was not thought to be on the list.

Yet a new study suggests that women who smoke face a heightened risk of dying from breast cancer, compared to women who don't smoke.

Epidemiologist Eugenia E. Calle and her colleagues at the Atlanta-based American Cancer Society tracked 604,412 women who were cancerfree at the time of their enrollment in the study in 1982. During the course of the 6-year investigation, 880 women died from breast cancer.

A statistical analysis revealed that, compared to nonsmokers, women who smoked at the time of enrollment ran a 25 percent greater chance of dying from breast cancer. That risk rose with the number of cigarettes used daily. For example, a woman who smoked between 20 and 29 cigarettes per day faced a 32 percent higher risk. A woman who smoked more than 40 cigarettes per day had a 75 percent greater likelihood of dying of breast cancer, the team reported in the May 15 American Journal of Epidemiology.

The researchers did not find an increased risk of fatal breast cancer among women who had stopped smoking before the study started.

Although the findings suggest that women smokers are more likely than nonsmokers to die from breast cancer, they do not prove that cigarette use is directly to blame. Calle points out that women who smoke seem to shun regular mammograms, an X-ray technique that can find early-stage breast tumors. It may be that smokers develop breast cancer at the same rate as nonsmokers but are more likely to obtain a diagnosis at a later, and thus more advanced, stage of the disease, she says.

On the other hand, smoking is known to impair the immune system. Therefore, smokers with a breast tumor may be less able to fight off the malignancy. Unfettered by the immune system, the malignancy grows faster, Calle says.

"Women who continue to smoke should be considered a potentially high-risk group for whom mammography education and early detection may be particularly valuable," the authors say.

Nutrition

'Immune' milk yields hearty benefits

Though calcium can lower cholesterol in the blood, this does not appear to explain all of the anticholesterol effects attributable to milk — at least not to "immune" milk. Researchers in New Zealand have shown that the antibody-rich skim milk from cows vaccinated against particular strains of 16 species of human-gut bacteria lowers cholesterol more than skim milk with equivalent calcium from nonimmunized cows.

No one was more surprised by the data than nutritionist Susan J. Sharpe, who led the study at the University of Auckland School of Medicine. Though unpublished data from studies on animals and at least one published human trial in Switzerland had hinted at immune milk's cholesterol-lowering properties, her team remained unconvinced. But then the milk's developer approached them with the idea of putting its product to the test. "We thought [our patients] could not come to any harm by taking extra milk," Sharpe recalls, and the study would give the university's cardiology clinic a chance to monitor how well participants — all with moderately high cholesterol concentrations (209 to 360 milligrams per deciliter) — adhered to a newly prescribed low-fat diet. So they agreed.

In the April American Journal of Clinical Nutrition, Sharpe and her colleagues report on cholesterol data collected at 2-week intervals. After observing 17 men and 13 women for more than 2 months, researchers assigned them at random to groups drinking two glasses of reconstituted powdered skim milk daily from either normal or hyperimmunized cows. After 10 weeks, participants stopped the supplementation and continued to eat normally for 4 weeks. Then each began an additional 10-week course of drinking the other type of milk.

The drinks, which tasted identical and had comparable amounts of nutrients, added the equivalent of 1 liter of milk to each participant's daily diet.

Compared to when they drank regular skim milk, participants experienced an average 5 percent drop in cholesterol concentrations while drinking the immune milk and a 7 percent lowering of low-density lipoprotein (LDL) cholesterol — the so-called bad cholesterol. Moreover, the Auckland team observed a novel and apparently unrelated trend toward lower blood pressure with both milks — though only the immune milk lowered both systolic and diastolic blood pressure.

Stolle Research and Development Corp. of Cincinnati patented immune milk in 1988 for treating rheumatoid arthritis. Though marketed only in Taiwan today, the milk is undergoing federally approved human trials to document its antiarthritis and anticholesterol effects. Moreover, notes Stolle's Daniel Gingerich, basic research within the company is exploring mechanisms for the milk's apparent benefits because these effects remain "surprising and, at this point, unexplained."

A yellow light for iron supplements?

While iron supplements can spur the growth of anemic children and boost their attention spans, excess iron may actually retard the growth of children whose diets contain adequate amounts of the element, a new study suggests.

Ponpon Idjradinata of Padjadjaran University in Bandung, Indonesia, and his colleagues provided a cherry-flavored syrup for 4 months to 47 iron-sufficient toddlers from middle-class urban families. They gave 24 of the tots syrup fortified with 3 milligrams of iron daily; the rest received ironfree syrup.

The unsupplemented children gained weight roughly 50 percent faster than those receiving fortified syrup, Idjradinata's team reports in the May 21 Lancet. Though the study was too brief to pick up any iron-related changes in height, the researchers suggest that such long-term effects cannot be ruled out. Indeed, they conclude, "The assumption that iron supplementation of [all children] is harmless may not be valid."