



## Research Update

### Smoking in pregnancy: pictures worth a thousand warnings

The capillaries that carry blood and oxygen to the placenta in pregnancy actually adapt and develop more surface area in mothers who smoke, according to startling electron microscopic images obtained by researchers in Germany, Scotland and Toronto (*Lancet* 1999;354[9175]). The blood vessels were obtained after cesarean section from 4 mothers who smoked and compared with vessels from non-smoking mothers. Images showed that the placental capillary loops from smoking mothers had increased branching and many dilations. It is thought that the increased surface area helps offset the impaired oxygen transport caused by carbon monoxide inhaled by smokers. The authors suggest showing these images to pregnant women to impress on them the dangers of smoking during pregnancy.

### Bacterial infections can cause early miscarriage

A common bacterial infection of the vagina (bacterial vaginosis) doubles the risk of miscarriage in the first trimester, a British study has found (*BMJ* 1999;319:220-3). The prospective study looked at women undergoing in-vitro fertilization and found that bacterial vaginosis did not affect conception rates but did affect miscarriage rates. The increased rate is the equivalent of 1 extra miscarriage for every 6 pregnant women with bacterial vaginosis. The increased risk was significant even after adjustment for factors that increase the risk of miscarriage (age, smoking, previous miscarriages, no previous live births and polycystic ovaries). Bacterial vaginosis affects 15% to 30% of women of childbearing age. There is no evidence as yet that treating the infection will change outcomes.

### A drink a day keeps mortality at bay in older-onset diabetes

People with diabetes diagnosed after age 30 benefit from drinking up to about a drink per day, finds a 12-year study of mortality from coronary heart disease (*JAMA* 1999;282:239-46). After adjustment for other risk factors, the risk of death due to coronary heart disease drops with the amount drunk, up to 1 to 2 drinks a day, after which it increases. The relative risk of death in a person with older-onset diabetes who has a drink or so per day is 79% less than for lifetime abstainers. However, an accompanying editorial warns that, in diabetes, alcohol may both induce and mask severe hypoglycemia. Heavy alcohol intake can also worsen diabetic neuropathy and produce or worsen insulin resistance.

### Forecasting fever

The tools of weather forecasting — satellite data and temperature readings — may soon be used to predict disease outbreaks. Researchers studying Rift Valley fever endemic to East Africa

tracked data from 1950 to 1998 and found that outbreaks followed periods of abnormally high rainfall (*Science* 1999;285:397-400). Analysis of rainfall, Pacific and Indian Ocean sea surface temperature and satellite data on local vegetation allowed the researchers to predict outbreaks accurately up to 5 months in advance. This advance warning gives communities time to vaccinate vulnerable domestic animals and control mosquitoes, which carry the virus that causes Rift Valley fever.

### Forest fungus yields insulin-like drug

A fungus from the forests of Zaire yields a compound that may be an effective drug for diabetes (*Science* 1999;284:974-7). The compound, extracted from *Pseudomassaria* species found in the rain forest, mimics the effects of insulin. In experiments in a mouse model of non-insulin-dependent diabetes, the compound significantly lowered blood glucose levels. Furthermore, because it is not a protein like insulin, it can withstand the gastric juices of the stomach and may therefore be taken orally.

## Cool site

### Web Doctor Rural Chat Room

[www.gretmar.com/webdoctor/framechat.html](http://www.gretmar.com/webdoctor/framechat.html)

One of the biggest challenges facing a northern or rural physician is isolation. Usually there are few colleagues with whom to compare notes, keep up with current research or just whine and complain. The WebDoctor may have just the medicine: a virtual meeting room that's open all the time — rent free. Chat services offer a way for people to talk in groups in "real time." Unlike discussion groups or email, people see what you type as you type it and can respond immediately. In this way, a real meeting can take place over the Internet. The Web Doctor Rural Chat Room runs on java-capable browsers only, so you need at least a version 3.0 Web browser. After that, all you have to do is arrange for everyone to get to the Chat Room at the same time, and start typing. — © Michael O'Reilly, [moreilly@cancom.net](mailto:moreilly@cancom.net)