DISEASE WATCH | IN THE NEWS

Link between HIV and pregnancy

Men have an increased risk of contracting HIV if their partner is pregnant, according to recent findings presented at the International Microbicides Conference in Pittsburgh, USA. The research was carried out over 2 years in several African countries, including Botswana and Kenya, and examined more than 3,000 couples in which only one partner was infected with HIV. The study leader, Nelly Mugo of the University of Nairobi, Kenya, said that "biological changes that occur during pregnancy may make women more infectious than they would be otherwise." The findings also confirmed previous research suggesting that women are more susceptible to HIV infection when pregnant, although the link between pregnancy and infection was not as clear as in men.

Encouragingly, however, new research presented at the same conference indicates that microbicidal gels are safe to use during pregnancy. These could be used by women as a chemical shield against infection when having intercourse with HIV-infected men who do not wear condoms, a common problem in sub-Saharan Africa. The levels of the antiretroviral drug tenofovir, which was applied in gel form hours before the women gave birth, were low in cord blood and in uterine and placental tissue, and lower than levels of orally administered drug. The researchers now plan to carry out a large study in pregnant and breastfeeding women. **BBC News/Associated Press**

Lasting effects of antibiotic resistance

The over-prescription of antibiotics could lead to lasting resistance effects, according to a new study. The researchers carried out a systematic review and, when possible, meta-analysis of published studies assessing the effects of antibiotic use in primary care on the development of resistance. They identified several studies that support an association between prescribing antibiotics and the development of resistance in urinary and respiratory tract bacteria as well as bacteria in the skin. The effects were strongest 1 month after prescription and could last up to 12 months; the residual effects might drive high levels of antibiotic resistance in the community. These findings support recommendations by the UK Standing Medical Advisory Committee to prescribe the "fewest number of antibiotic courses ... for the shortest time possible." The researchers also suggest that the only way to prevent the vicious cycles of resistance to powerful broad-spectrum antibiotics is to try to avoid their initial use when possible. ***BMJ***

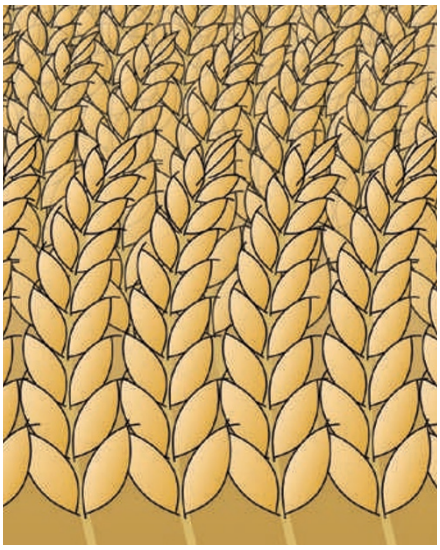
Interfering with Ebola

Scientists have developed a new therapy for Ebola virus using small interfering RNAs (siRNAs) — short non-coding RNAs that guide the degradation of their complementary strand in the genome. In this study, published in *The Lancet*, virologist Thomas Geisbert and colleagues used siRNAs targeting the Zaire Ebola virus RNA polymerase L; the siRNAs were packaged in stable nucleic acid particles (SNALPs), which protect siRNAs from degradation in the body and help them reach Ebola-infected cells. Macaques were administered a cocktail of siRNAs 30 minutes after exposure to the virus, and then again either 1, 3 and 5 days later or at daily intervals for 6 days. Two of the three animals receiving the first dosage regime survived, and all of the four animals that received the 6-day treatment were protected. More work is needed to establish the optimal dose of the siRNA treatment and to determine whether it is effective after disease has manifested. However, the findings are encouraging, as this treatment offers the best protection seen to date against Ebola virus and could be used to treat researchers following laboratory accidents with the virus as well as, hopefully, Ebola outbreaks in remote areas of Africa. ***Lancet*/Science News**

New host for bovine tuberculosis

Bovine tuberculosis has been identified for the first time in the United Kingdom in feral wild boar, adding to the growing list of wildlife hosts for the disease. The disease was identified in Herefordshire during a study on wild boar, in which the animal in question died under anaesthesia. During the post-mortem examination, scientists from the UK Veterinary Laboratory Agency observed tissue lesions consistent with bovine tuberculosis. It remains unclear what role wild boar may have in spreading the disease and whether, together with badgers, they could infect cattle. A spokesperson from the UK Department for Environment, Food and Rural Affairs (Defra) said that wild boar, the population of which is small and localized to parts of the English countryside, pose a low risk of spreading the disease in livestock. However, there might be some risk to those handling live infected animals or carcasses, so adhering to basic hygiene practices is advised. ***The Guardian***

Outbreak news



Wheat stem rust. Two new forms of a virulent wheat fungus, known as Ug99 stem rust, have been identified in South Africa. They can overcome the effects of wheat resistance genes, which normally lead to the death of plant cells near the site of infection and thereby prevent further spread of the fungus. There is concern that the fungus will migrate to countries in North Africa and the Middle East, eventually reaching Europe and North America. If this occurs, farmers might need to replace 90% of their crops with resistant varieties. **Nature News**

In the News was compiled with the assistance of David Ojcius, University of California, Merced, USA. David's links to infectious disease news stories can be accessed on Connotea (http://www.connotea.org), under the username NatureRevMicrobiol.