

Hunting and logging linked to emerging infectious diseases

A “synergy” between hunting of wild vertebrates and contemporary logging practices in tropical forests could be responsible for the emergence of new infectious diseases, says ecologist Nathan Wolfe (Johns Hopkins School of Public Health, Baltimore, MD, USA).

“The commercialisation of hunting and dramatic increases in tropical logging, complete with new trucks and access roads, allow local disease outbreaks to have potentially global consequences”, he warns.

Wolfe and colleagues reviewed risk behaviours and disease transmission in highly biodiverse lowland tropical forests. The strongest associations were for hunting—linked to transmission of Ebola virus and monkeypox—and wildlife necropsy—linked to transmission of Ebola virus and listeriosis. “The difference is that when wildlife necropsy is performed appropriately, people use protective measures. We don’t know much about indigenous protection, but

hunters still are less likely to be taking precautions, plus the frequency of hunting is much higher, making it a much greater risk”, says Wolfe.

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A risky business?

Other behaviours associated with disease transmission included butchering and other forms of meat processing (anthrax, Ebola), keeping pets (salmonella), and ecotourism (measles, *Loa loa*, cutaneous leishmaniasis). Combined with the transportation infrastructure provided by logging companies, rapid urban growth, and substantial geographic mobility, these activities represent

“the ideal recipe for microbial emergence”, conclude the researchers (*Global Change Hum Health* 2000; 1: 10–25).

“Hunting is as old as humankind, and disease transmission associated with hunting is equally old. But diseases which, in the past, would have gone extinct in some small rural group, now have the capacity to spread through cities and international airports to all parts of the world”, stresses Wolfe, who works in Cameroon. Studies are underway to identify the specific mechanisms of transmission with a view towards predicting, controlling, and preventing disease emergence, he notes.

But Wolfe reminds that disease transmission is a two-way street. “There are quite a few endangered primate populations in isolated regions, and their risk of disease from humans involved in activities such as ecotourism is substantial”, he warns.

Marilynn Larkin

Treatment of acute phase of HIV-1 “advantageous”

Early treatment of acute HIV-1 infection can boost patients’ immune control, report US researchers. This finding contrasts with the reported lack of immune control in patients with chronic infection, providing a rationale for starting treatment early and for exploring immunotherapy in both acute and chronic HIV-1 infections.

Successful treatment of acute HIV-1 infection leads to augmentation of virus-specific T-helper-cell and cytotoxic T-lymphocyte (CTL) responses, but whether this means that immune control is also enhanced is unclear. To determine whether these immune responses are functional, Bruce Walker and colleagues (Harvard Medical School, Boston, MA, USA) monitored viral loads during treatment interruption in eight patients treated with highly active antiretroviral therapy (HAART) during the acute or early phase of HIV-1 infection. Treatment was restarted only if the patient’s viral load exceeded 5000 HIV-1 RNA copies/mL plasma for 3 consecutive weeks or 50 000 copies/mL at any one time.

During treatment interruption, all patients achieved a steady state (viral load less than 5000 copies/mL plasma) at least temporarily. Five of

the eight patients were still off therapy with viral loads below 500 copies/mL a median of 6.5 months (range 5.0–8.7 months) later. HIV-1-specific CTL responses rose, and T-helper responses were maintained in these five patients in the absence of treatment and despite low levels of viraemia, but CTL responses did not rise in patients who did not interrupt treatment (*Nature* 2000; 407: 523–26). The authors say the successful containment of viraemia “supports the practice of treating individuals with HAART during acute or early HIV-1 infection”, and provides a rationale for exploring “immunotherapeutic interventions in both acute and chronic HIV-1”.

“This work has major implications for treatment”, says Joel Blankson (Johns Hopkins University School of Medicine, Baltimore, MD, USA). “There have been several studies looking at treatment interruptions in chronically infected patients, and the results have not been nearly as impressive as Walker’s results in patients with acute HIV infections. This new study shows that there may be a real advantage in starting HAART during primary HIV disease.”

Dorothy Bonn

Lung cancer tackled at Tokyo conference

Health-care professionals and non-governmental organisations took another step in the fight against smoking-related lung cancer by releasing the Tokyo Declaration at the 9th World Conference on Lung Cancer (Tokyo, Japan; Sept 11–15).

The declaration proposes several initiatives aimed at reducing the incidence of smoking-related lung cancer, with a particular emphasis on stopping smoking in children.

Delegates also reported on a number of clinical trials on the treatment of small-cell lung cancer. Many trials on the same agents and settings produce conflicting results, according to Richard Gralla (Herbert Irving Comprehensive Cancer Center, Columbia University, NY, USA). This, he suggested, highlights the need for good meta-analyses, particularly of studies that have found no differences between drugs in terms of important clinical variables. He warned against regarding “no difference” results as evidence of clinical equivalence between the agents, and implied that the same methodological problems could apply to studies of non-small-cell lung cancer, which could be more clinically important.

Peter Harrigan