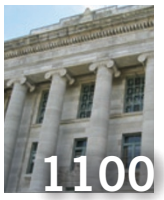
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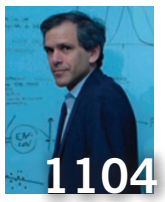
Media rules:
Harvard backtracks on policy regarding talking with press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Metrics man:
Christopher Murray discusses the need to track health care


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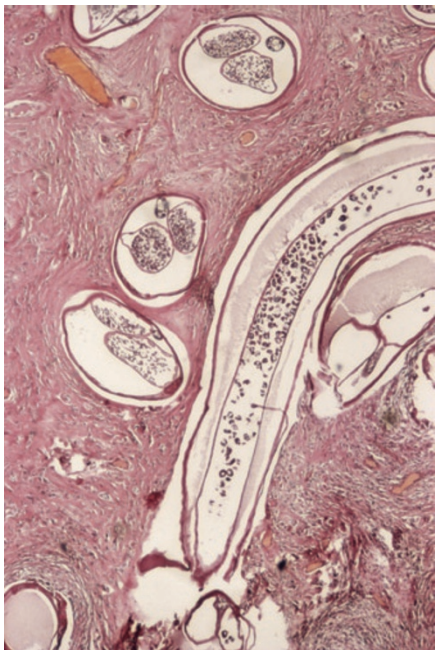
Invisible leap:
New techniques help researchers see through tissues

Large trial to examine parasites' influence on global killers

In the controlled confines of a laboratory, researchers can study the impact of a single pathogen on a single outcome. In the real world, things are messier; research subjects may be infected with a host of bacteria, viruses and parasites, all of which interact with the immune system and may also interact with each other. This fall, the European Commission will launch a massive project involving at least 12,000 human subjects in six countries to investigate whether helminths—parasitic worms that infect roughly 2 billion people worldwide—influence how the immune system responds to the 'big three'—HIV, malaria and tuberculosis.

Helminths, the cause of several of the so-called 'neglected infectious diseases' that afflict mainly poor countries, include intestinal parasites such as roundworms, whipworms and hookworms, as well as worms that cause river blindness and elephantiasis which is characterized by swollen limbs. Because the regions with the highest burden of HIV, malaria and tuberculosis are the same regions where worm infections occur, scientists estimate that tens of millions of individuals are co-infected. Investigations looking at the impact of worm co-infections began more than a decade ago. "There are enough preliminary data to suggest that worms really do have a substantial impact on many of these diseases," says Judd Walson, a physician and global health expert at the University of Washington in Seattle who is not involved in the project. Previous studies, however, have been marred by small numbers and other methodological problems. So, many questions remain.

The new project—Infectious Diseases Europe Africa, or IDEA—will be the largest exploration of these questions to date, involving 20 universities, hospitals and other research organizations on both continents. It aims to understand how worm infections affect the host's immune system and whether those effects, in turn, influence susceptibility to new diseases, disease progression, disease severity and response to treatment. According to Giuseppe Pantaleo, a researcher at the University of Lausanne in Switzerland and IDEA's coordinator, the €10.5 million ($15.5 million), five-year project will be able to overcome many of the shortcomings that have plagued previous studies. (Two other projects receiving funding from the European Commission, dubbed EPIAF and TheSchistovac, will explore vaccine candidates against the parasitic diseases schistosomiasis and onchocerciasis, respectively.)



CNRI / Photo Researchers, Inc.

One of many villains: Parasitic worms

IDEA will use existing study subjects from cohorts in Gabon, Uganda, Tanzania, Nigeria, Italy and the UK. In addition to several observational studies, the researchers will conduct at least five clinical trials to look at the effects of antiworm medications on HIV, malaria and tuberculosis. Pantaleo, who also serves as executive director of the Swiss Vaccine Research Institute, says the studies should be well controlled and large enough to provide "clear answers." The researchers also plan to collect vast quantities of immunological data and analyze it using sophisticated techniques.

Previous research has suggested that worm infections might inhibit the body's ability to respond to other infections by influencing the immune system. These parasitic hitchhikers tend to raise a strong 'T helper type 2' (T_H2) immune response, which sparks production of antibodies. But the T_H2 response also generates chemical signals that suppress the T_H1 immune response, the response needed to control HIV, malaria and tuberculosis, Pantaleo says. But the process isn't completely understood. "We hope to fill some of the gaps in our immunological understanding of worm infections, on one hand, and co-infection, on the other hand," says Ole Olesen, who manages the European Commission's portfolio of research projects on neglected infectious diseases, including IDEA.

Immunological data will help researchers develop vaccines against worm diseases, but the findings will also have implications for health agencies on the ground. If deworming improves an individual's response to tuberculosis medication, for example, health officials might consider offering worm medications before they treat for tuberculosis. IDEA may also shed light on whether deworming makes individuals less susceptible to HIV, malaria or tuberculosis or improves their natural immune response. "I think this project will offer both the numbers and, hopefully, the quality study design to really address some of these issues," Walson says.

Another set of clinical trials will examine the impact of worm infections on the body's ability to raise a response against experimental vaccines for HIV, malaria and tuberculosis. Previous studies have suggested that worms can blunt the vaccination response in the same way that they inhibit the body's ability to respond to a natural infection, by raising a strong T_H2 response (*Vaccine* **24**, 5211–5219; 2006).

Peter Hotez, a research professor at George Washington University in Washington, DC, points out that there are several ways that worms can interact with HIV, malaria or tuberculosis that don't involve immune regulation. For example, women infected with the *Schistosoma* worm can develop lesions in their vaginas, which may increase their risk of HIV infection. Worms can also cause severe anemia, which can overlap with malaria-related anemia. "What [the IDEA researchers] are proposing is important," Hotez says. But he would like to see the project expanded to include other potential interactions.

Cassandra Willyard, New York