
Interview: Colin Lowry

Don't Underestimate This Public Health Enemy: 'Prion Pathology'

Colin Lowry, cell biologist and Associate Editor of 21st Century Science & Technology magazine, was interviewed on Feb. 12 on the danger of bovine spongiform encephalopathy—BSE, or mad cow disease—and the little-known science of prions. The interview, excerpted here, was conducted by Economics Editor Marcia Merry Baker and Science Editor Marjorie Mazel Hecht. The full interview will appear in 21st Century Science and Technology.



EIR: We have had two cases of BSE in North America over the past nine months, and from a scientific point of view, you have said that the Federal food and agriculture safety policy is outrageous. What is the danger?

Lowry: The Federal standards are totally inadequate. There's very little testing at all to identify cows that are slaughtered that might have BSE. There is absolutely no testing before an animal is slaughtered, which is a real problem, because if you find a BSE cow, you can't identify where it came from. And the only way to find new cases is to catch them at slaughter by chance.

The USDA is also misleading the public on where the prion pathogen, or BSE, is found in cattle. The press reports, and statements by Ann Veneman and others from the U.S. Department of Agriculture, are either the result of complete stupidity, or lying. BSE is *not found only in the brain and spinal cord*. In an animal that actually is symptomatic or infected, it will be in all nervous tissue, in the lymph nodes, in the blood, small amounts in the muscle, in the spleen, in the gut—just about everywhere. So, to think that you're protecting yourself by not eating brain and spinal cord, or somehow not recycling those parts into other animal feed, is just ridiculous—and potentially a lie, because they should know better.

EIR: What is the pathology of the "prion" and where does this name come from?

Lowry: The prion is a protein, sub-cellular in size, folded into a dominant conformation that is somehow infectious, in

that it causes incredibly horrible neurological complications, and can spread through the blood, person to person.

Prions themselves were recognized as such in the mid-1970s, originally by Carleton Gajdusek, and later by Stanley Prusiner and his research group. Gajdusek first found what came to be called prions in tribes in New Guinea, some of which were cannibals, others of which were not, but they had rather unusual rituals, which involved communing with the dead, and being exposed to their brains. And he saw neurodegenerative disease in very young people, which you would never expect to see.

This disease is called kuru, and is endemic in New Guinea, and probably a few other places. It is a neuro-degenerative disease, a prion disease. Basically, it causes massive cell death of neurons throughout the central nervous system. It has a long incubation time, on the order of years. It might take up to 6-10 years, to actually have someone die of it.

Its behavior is very similar to what we see in the inherited Creutzfeldt-Jacob Disease (CJD) and in the animal-to-human transmitted variant Creutzfeldt-Jacob Disease (vCJD), and how the disease progresses.

EIR: Was CJD known earlier?

Lowry: No. Prions were identified in the late 1970s. At that time, the prion was a really revolutionary idea that was resisted by most scientists. No one believed that anything except a virus or bacteria could be infectious or transmissible. Prions were just a protein, in a very dominant shape or conformation that was resistant to high heat, protease digestion, enzymes, chemicals—nothing could kill it, so to speak.

EIR: Did they actually take samples of the kuru, the prions?

Lowry: Yes, this is exactly what they did. At the time, they did not know what it was. The first assumption—which was a good assumption—is that it was some kind of rare virus. So they then used techniques that would obviously destroy viruses—autoclaving (sterilizing), high heat, chemicals, filtering, you name it. And they found that there was almost nothing they could do to the protein fraction of the extracts; it was always infectious, even when they used things that would destroy nucleic acids, RNase, DNase, so that there would be no nucleic acids left, or available for this thing to reproduce.