

Is mental illness infectious?

For centuries, people blamed mental illness on witchcraft. Then Freud and other psychotherapists emphasized repressed experiences from a troubled past. The focus has since shifted to biochemical abnormalities that affect brain function. Now, a group of German scientists suggests that some forms of mental illness may be caused by a virus.

For the first time, a microbe linked to behavioral abnormalities in animals has been isolated in humans, says Liv Bode of the Robert Koch Institute in Berlin.

Bode and his colleagues obtained the Borna virus from three people who had been diagnosed with mood disorders. When injected into laboratory animals, the virus caused the animals to develop behavioral problems, the team reports in the July *MOLECULAR PSYCHIATRY*.

"These findings open up a new area of investigation of mental disorders," say the researchers.

"This is the first solid clue that an infectious agent may be linked to mental illness," says R. Michael Hendry of the California Department of Health Services in Berkeley.

Earlier studies showed that the Borna virus has evolved over eons into distinct strains, each with a predilection for a specific animal species. The human version has also proved to be distinct, suggesting that the individuals in the German study were infected with a Borna virus that circulates in the human population.

Other studies have identified antibodies to animal strains of the virus in up to 5 percent of healthy animals, Hendry notes. Furthermore, Borna virus antibodies have been reported in nearly one-third of people with certain mental illnesses, including obsessive-compulsive disorder and schizophrenia, he says.

Because the tests now in use were designed to detect infection with animal strains of the Borna virus, they may fail to find antibodies to the human version. Scientists armed with the genetic sequence of the newly found human virus, however, can devise a test that will zero in on the human version. If such a test is developed for general use, it could measure the prevalence of the virus among the mentally ill.

Cyclospora traced to imported berries

The case of the apparently infectious berries has been solved. Investigators at the federal Centers for Disease Control and Prevention in Atlanta have traced this summer's epidemic of diarrheal disease to raspberries imported from Guatemala.

The outbreak, the largest on record in the United States, was caused by *Cyclospora cayatanensis*, a parasite that thrives in the small intestine (SN: 7/6/96, p. 7). *C. cayatanensis*, first recognized as a source of illness in 1977, caused more than 900 confirmed cases in 20 states and the Canadian provinces of Ontario and Quebec this summer, according to the CDC's July 9 *MORBIDITY AND MORTALITY WEEKLY REPORT*.

Most people with confirmed cases of the illness had eaten raspberries that could be traced back to Guatemala. Hundreds of other cases are still being investigated, says Barbara L. Herwaldt, an epidemiologist at CDC.

Investigators are still trying to determine how the raspberries became contaminated, Herwaldt says. They may have been washed in tainted water, handled by someone whose hands carried the microbe, or contaminated during shipping. The CDC has dispatched three scientists to bolster the investigation by researchers at its field station in Guatemala.

Herwaldt said that the CDC is "keeping an open mind" about the possibility that the berries were contaminated in the United States. Although case reports continue to trickle in, the number has fallen off dramatically, a drop that coincides with the end of Guatemala's berry season.

Mexican facial cream contains toxic mercury

Public health officials report an unexpected hazard associated with a beauty cream—mercury poisoning.

Crema de Belleza—Manning is produced in Mexico and often found for sale in shops and by street vendors in towns near the U.S.-Mexico border. After identifying mercury poisoning in a few cases, state and federal health investigators located 238 people in Arizona, California, New Mexico, and Texas who reported using the beauty cream.

The researchers conducted urine tests on 119 of these people. Elevated mercury concentrations, more than 20 micrograms per liter ($\mu\text{g/l}$) of urine, were detected in 104 cases. Moreover, 27 of the 104 had readings of more than 200 $\mu\text{g/l}$.

The probe also found elevated mercury concentrations in the urine of people who had never used the cream but who lived with someone who had. Because mercury is absorbed through the skin, touching someone who had just applied the mercury-laden cream could result in higher readings, the researchers speculate. They describe their results in the July 26 *MORBIDITY AND MORTALITY WEEKLY REPORT*.

Symptoms of mercury poisoning include fatigue, memory loss, tremors, weakness, and loss of vision or taste. "At higher levels [of mercury exposure], the symptoms get progressively worse," notes Annemarie Wasley, an investigator at the federal Centers for Disease Control and Prevention in Atlanta.

The facial cream lists calomel—mercurous chloride—as an ingredient. Public health officials warn consumers against using any product containing calomel.

Study offers stinging advice

Two entomologists at the University of California, Riverside wondered about the conventional advice on how to handle bee stings. Is it really better to scrape the bee's stinger off the skin? Or would pinching the stinger out with fingers or a forceps work better?

To answer that question, P. Kirk Visscher and Richard S. Vetter did some incisive experiments. In 20 tests each, the researchers captured a worker honeybee as it flew from its hive, irritated the bee, and got stung. Next, the researchers either scraped the stinger off with a credit card or pinched it out with thumb and forefinger, then measured the size of the red welt left behind. The method of stinger removal made no difference in welt size, the team determined.

The traditional advice to scrape, never pinch, is based on the belief that pinching the sting apparatus would squeeze more venom into the wound, so the team first confirmed the long-suspected relationship between the amount of venom injected under the skin and the size of the welt. The larger the welt, the more venom the stinger had delivered, Visscher says.

The stinging device, however, doesn't deliver venom by compression alone. Instead, it relies on a pump-and-valve system. Visscher says, "You don't drive venom past the pump by pinching it."

The California team's further research suggests that it's important to get the stinger out quickly. On 50 occasions, Visscher exposed his arm to a bee sting, then waited for various intervals (up to 8 seconds) before taking the stinger out. The longer the stinger remained, the more venom was pumped into his flesh and the larger the welt became. In addition, he says, the amount of venom delivered determines the risk of a dangerous allergic reaction in some people.

The team describes its findings in the Aug. 3 *LANCET*.

For anyone who gets stung by a bee, the researchers offer some commonsense advice: Forget about method—get the stinger out as quickly as possible.