Transmission of Creutzfeldt-Jakob Disease

To the Editor:

A tertiary medical center (UCLA) has discharged a *possible* Creutzfeldt-Jakob patient to a long-term skilled nursing facility in the Los Angeles area. The Centers for Disease Control (CDC) has no apparent recommendations. What are the recommendations of *Infection Control and Hospital Epidemiology* regarding the level of isolation of this patient?

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Dr. Silver's question was referred to Barry Farr, MD, MSc.

The mode of transmission of the agent of Creutzfeldt-Jakob disease (CJD) in the natural setting remains unknown.' Nosocomial infection has been reported in one patient after receiving a corneal transplant and in two patients after use of contaminated stereotactic electrodes. Concern has been raised that the agent of CJD may also have been transmitted to patients receiving intramuscular injections of human growth hormone prepared from human cadaveric pituitary glands.[2-4]

Primates, goats, cats, guinea pigs, mice, and hamsters have been experimentally infected by inoculation with spinal fluid or tissue from the brain or spinal cord of CJD patients. Other tissues from CJD patients, such as liver, kidney, lung, and lymph nodes, transmit infection less frequently to such experimental animals. The blood of CJD patients has not yet been demonstrated to contain the agent, but the leukocytes of experimentally infected guinea pigs have been shown to contain the CJD agent." The agent of kuru, which is similar to the agent of CJD, has been transmitted to experimental animals by ingestion as well as by peripheral or intracerebral inoculation.'

Nosocomial transmission to the health care worker has not been documented, but the presence of the CJD agent in body tissues and fluids has led the Centers for Disease Control (CDC) to recommend that precautions similar to those used for hepatitis B be employed for patients with CJD.[5-7] It has also been recommended that percutaneous exposure of a health care worker to blood, cerebrospinal fluid, or tissue from such patients be immediately followed by irrigation of the wound with 0.5% sodium hypochlorite. Brown et al have suggested that contaminated skin may be safely disinfected by a five- to ten-minute exposure to 1 N sodium hydroxide, followed by vigorous rinsing with water."

Recently the CDC has recommended that barrier precautions be used to prevent the exposure of health care workers to the blood and body fluids of all patients at all times." This policy has been referred to as "universal precautions." The CDC has suggested that the use of universal precautions eliminates the need for the isolation category "blood and body fluid precautions." At the University of Virginia we endorse the CDC's recommendation for the use of universal precautions and feel that this will protect the health care worker against hepatitis B, CJD, human immunodeficiency virus (HIV), and other pathogens. Our institution has elected, for the time being, however, to continue identifying patients with documented infection such as CJD or hepatitis B with the "blood and body fluid precaution" signs and stickers.

It is important to note that the agent of CJD is unusually resistant to inactivation by routine disinfectants.[8,10] Autoclaving instruments at 121°C and 15 psi for one hour will result in sterilization. One-hour exposure to 0.5% sodium hypochlorite is effective for situations where autoclaving is impossible. A one-hour exposure to 1N sodium hydroxide is also effective and less corrosive than hypochlorite for most materials, with a major exception being aluminum."

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