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Update: Investigation of Rabies Infections in Organ Donor and Transplant Recipients — Alabama, Arkansas, Oklahoma, and Texas, 2004

On July 1, 2004, CDC reported laboratory confirmation of rabies as the cause of encephalitis in an organ donor and three organ recipients at Baylor University Medical Center (BUMC) in Dallas, Texas (*1*). Hospital and public health officials in Alabama, Arkansas, Oklahoma, and Texas initiated public health investigations to identify donor and recipient contacts, assess exposure risks, and provide rabies postexposure prophylaxis (PEP). As of July 9, PEP had been initiated in approximately 174 (19%) of 916 persons who had been assessed for exposures to the organ recipients or the donor. As a result of its public health investigation, the Arkansas Department of Health determined that the donor had reported being bitten by a bat (Frank Wilson, M.D., Arkansas Department of Health, personal communication, 2004).

On July 7, CDC was notified of an additional organ transplant patient at BUMC who had died of encephalopathy of unknown origin in early June. This case was detected as part of an ongoing review of transplant-patient autopsies. The patient, who had end-stage liver disease, had received a liver transplant at BUMC in early May 2004. The patient remained hospitalized with transplant-related complications and began having neurologic abnormalities in early June, progressing to seizure, coma, and death. On July 7, pathologists at BUMC identified intracytoplasmic inclusions, suggestive of rabies, in neurons in multiple areas of the brain.

Specimens from the recipient were sent to CDC on July 7, and direct fluorescent antibody and immunohistochemical staining procedures confirmed the presence of rabies viral antigens in multiple areas of the brain, including the hippocampus, midbrain, pons, medulla, and cerebellum. Similar to the findings with the three previously known rabies-infected transplant recipients, preliminary antigenic characterization of the agent was consistent with a rabies virus variant associated with insectivorous bats. On July 8, CDC laboratory testing of tissues and serum from the donor who provided the liver yielded no evidence of infection with rabies virus.

Review of surgical procedures at BUMC determined that a segment of iliac artery recovered from the donor subsequently determined to have rabies had been stored at the facility for future use in liver transplants. This artery segment subsequently was used in the transplantation of the liver in the most recently identified rabies-infected recipient. Investigation of rabies transmission sources is ongoing, although current evidence suggests that the artery segment originating from the rabies-infected donor likely is the source of the latest rabies infection. Identification of contacts of this liver recipient is under way, and initiation of PEP when indicated or as appropriate is in progress.

Reference

1. CDC. Investigation of rabies infections in organ donor and transplant recipients—Alabama, Arkansas, Oklahoma, and Texas, 2004. MMWR 2004;53:586–9.

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