Creutzfeldt-Jakob Disease (CJD)

Creutzfeldt-Jakob disease (CJD) is a rare disease that causes brain lesions in humans and is believed to be caused by an infectious particle called a prion protein. It occurs worldwide and is reported to be about one case per million population each year. The risk of classic CJD increases with a person's age. For a person with CJD, the median age at death is 68 years old. Classic CJD is not related to "mad cow" disease.

Transmission

In 85% of cases, CJD appears to occur sporadically, caused by the spontaneous transformation of normal prion proteins into abnormal prions

- **CJD is not transmitted person-to-person** by airborne droplets, blood, or sexual contact
- Some CJD cases acquired their infection from another CJD case accidentally by medical or surgical treatments and procedures
- No increase in cases of CJD has been observed in people previously transfused with blood or blood components or injected with human plasma derivatives, suggesting that risk of transfusion-transmitted classic sporadic CJD must be very low and regarded as theoretical
- Except in families with familial forms of the disease, CJD has not been reported in children of mothers who died with CJD
- Brain, eyes, spinal cord and spinal fluid are tissues associated with disease

Symptoms

It is unknown how soon symptoms appear after infection in CJD cases, however, CJD progresses rapidly once neurological symptoms appear.

- Dementia
- Confusion
- Walking difficulties
- Uncoordinated voluntary muscle movements
- Visual disturbances
- Involuntary muscle contractions

CJD is fatal. Infection with this disease leads to **death usually within one year** of onset of illness.

Diagnosis

CJD is diagnosed by clinical symptoms along with diagnostic tests. However, diagnosis with CJD can be made certain only during an autopsy examination of the brain tissue.

Treatment

There is no treatment for CJD. Only supportive treatment to manage symptoms is available. There is no evidence of a protective immune response to CJD, and there is no vaccine available. CJD is always fatal.

Prevention

- **Organs or tissues** from infected people **should not be used as transplants**
- **Contaminated surgical instruments** should be properly cleaned and disinfected

For more information about the treatment of CJD visit cdc.gov/prions/cjd/index.html or contact your health care provider.

Exclusion Guidance

Individuals with CJD likely will not be able to attend work, school or child care; general exclusions apply.

For additional information about CJD, contact North Dakota Health and Human Services' Public Health Division at 800.472.2180.

This disease is a reportable condition. As mandated by North Dakota law, any incidence of this disease in humans shall be reported to the North Dakota Department of Health and Human Services.

Resources:

1. Centers for Disease Control and Prevention. (2021, September 10). Creutzfeldt-Jakob Disease, Classic (CJD). Centers for Disease Control and Prevention. Retrieved June 12th, 2023, https://www.cdc.gov/creutzfeldt-jakob/about/?CDC_AAref_Val=https://www.cdc.gov/prions/cjd/index.html.
2. Heymann, D. L. (2022). Control of Communicable Diseases Manual, 21st Edition. Prion Diseases. American Public Health Association. 2022: 513-519.
3. Kimberlin, D. W., Barnett, E. D., Lynfield, R., Sawyer, M. H. (2021) Red Book: 2021- Report of the Committee on Infectious Diseases. 31st ed. American Academy of Pediatrics. [Management and Prevention of Infectious Diseases; [Pages 610-614].

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