

Ground Truth : ATBEV

Pathogen Type:

Referred to as aggressive tick-borne encephalitis virus (ATBEV) by the scientific community.

Sensationalized as “Brain Rot” by the media and public.

Origin and Emergence:

Spread via the Blacklegged Tick (*Ixodes scapularis*), this particular virus is believed to have originated from the Powassan Virus. It is both extremely transmittable and extremely heat resistant — to the point of being able to survive the process of milk pasteurization.

Due to increased global temperatures, the tick population of the continental United States boomed. This explosion — coupled with increasingly overpopulated cattle farms — led to a mass infection of the ruminant populations of America. Because the pathogen has such a wide and varied incubation period, as well as a second window before neurological symptoms present, the contaminated milk was able to be shipped worldwide before scientists were able to discover the connection.

Cattle exports from the US to other countries before the virus was caught mean that both infected cattle and the ticks they were carrying have ended up in other parts of the world, potentially spreading both the ticks *and* the virus if the conditions for survival of each are met.

Pathogen Characteristics:

Incubation period of 1 - 28 (typically 5 - 8) days before the initial round of symptoms show.

ATBEV is biphasic in nature. The first phase consists of mild, non-specific symptoms such as:

- Vomiting
- Headaches
- Fatigue
- Fever

A window of anywhere from 1 - 33 (but typically 7 - 10) asymptomatic days follows the first phase. Soon thereafter, patients begin to experience the neurological effects of the pathogen associated with the CNS symptoms of meningitis and meningoencephalitis. Some of which include:

- Movement disorders
- Sensitivity to light
- Impairment of speech or hearing
- Behavioral changes
- Memory loss
- Confusion and disorientation
- Irritability
- Anxiety
- Psychosis

This is not a complete list of possible symptoms

Between 1/3 and 2/3 of all infections are asymptomatic. On average, 80% of those symptomatic will experience the second stage of the virus, with children and the elderly at a significantly

higher risk. ATBEV has a mortality rate of up to 35%, with nearly half of those who enter the second stage of the virus being left with neurological sequelae of some severity.

Other Impacting Factors:

Environmental:

Climate change is the key factor when concerning tick-borne diseases of all kinds, including ATBEV. The hotter temperatures combined with wetter summers cause exponential growth within the tick populations.

The deforestation of the blacklegged tick's habitat forced the populations to migrate to less dense, more open areas (such as farmland).

Technological:

As AI becomes more and more prevalent within the confines of daily life, they are used to help identify people who may be exhibiting symptoms of ATBEV. They will be used to assist medical personnel in diagnosing those affected with the disease, helping to relieve some of the stress that will be placed upon the healthcare system due to the pandemic.

Lab-grown beef and milk will be able to partially fill the gap that traditionally grown beef and milk had previously held. Obviously this will be challenging, both from a technical standpoint and a pragmatic one, as some people will refuse to consume lab-grown food.

Economic:

The Agricultural industry would effectively be killed, leaving a gaping hole in the economy of the US. There would undoubtedly be riots as farmers are forced out of their jobs and their way of living is destroyed.

Most outside-based activities cease to operate in order to avoid possible tick exposure. These include things such as national and amusement parks, types of outdoor sports (those played outside of an enclosed stadium), any form of hiking or mountain biking, and hunting/camping.

As travel bans are imposed on the US, Canada, and Mexico (perhaps unjustly), the tourism industry suffers greatly as well.

Social:

Because of the unique fear-factor of this pathogen, and its first phase of extremely mild and non-specific symptoms, people will be flooding in and overwhelming hospitals. Anything from a headache to an upset stomach will be reason enough to justify an ER visit, crippling healthcare systems worldwide by the sheer volume of patients and in turn meaning the people who are actually infected are less likely to be seen.

Inexplicably, some radical groups start expressing an anti-hindu sentiment in response to ATBEV. When people are afraid, they inevitably begin looking for someone to blame. Since the virus is spread primarily through cattle, rates of Hinduphobia experienced a sharp incline in the US.

Political:

As with every issue, politics inevitably muddle the response to ATBEV. Unfortunately, response to ATBEV becomes a partisan issue, slowing the capability of the government to make any effective decisions regarding how to handle it. Some disagree with the efforts to cull all potentially infected livestock. Some disagree with whether a pesticide should be used, and what damage it may cause to the ecosystem. Some disagree with the move to populate the stores with lab-grown meat and dairy as opposed to traditional meat and dairy.

Other:

Because most baby formulas are made from cow's milk, the world is left dealing with an international shortage after all or most dairy products are destroyed. This leads to an rise in malnourished infants, and therefore more hospitalizations for an already stressed healthcare system. Inevitably, it will also lead to a rise in infant deaths for an extended period of time — long term, it may even affect the population's age distribution, leading to an older population on average.