

Hantavirus

April 3, 2020

Source: *The Hindu*

Manifest pedagogy: Hantavirus is not new to the world. But any new strain of an old virus has to be looked at with a caution, thanks to COVID-2019. Even for CSE aspirants it is important to study all these viruses and their new strains.

In news: Recently a man from Yunnan Province of China was tested positive and died due to Hantavirus.

Placing it in syllabus: Microorganisms

Dimensions:

- History
- Vector and Spread
- Effects

Content: “**Orthohantavirus**” – commonly known as **hantavirus** is a very rare virus. The last two reported confirmed cases worldwide were in Bolivia and Argentina.

It is in a class of diseases called **zoonoses**, meaning it is a virus transmitted from animals to humans. In this case, the **animal in question is rodents (usually rats).**

History:

- Hantavirus was **originally discovered in Asia during the Korean War.**
- The actual virus was not isolated until 20 years later, in 1976.
- It was **discovered** in a striped field mouse near the **Hantan River in South Korea.**
- Hence the prototype was christened the Hantaan virus.
- They were **first detected in May 1993 in southwestern**

United States.

- Hantaviruses in the Americas are known as “**New World**” **hantaviruses.**
- Others are known as “**Old World**” hantaviruses and are **found mostly in Europe and Asia.**
- They are **about a hundredth the size of a bacteria.**
- They are also an **RNA virus just like SARS-CoV-2 (the novel coronavirus).**

Vector and Spread:

Hantavirus is **spread from several species of rodents in their urine, droppings, and saliva.** It is thought that transmission occurs when they breathe in air contaminated with the virus. **There is no human to human transmission, except for one virus, the Andes Virus, which spreads between people.**



According to the **US Centre for Disease Control and Prevention (CDC)** reports:

- If a rodent with the virus bites someone, the virus may be spread to that person, but this type of transmission is rare;
- People may be able to get the virus if they touch something that has been contaminated with rodent urine, droppings, or saliva, and then touch their nose or mouth;
- It is suspected that people can become sick if they eat food contaminated by urine, droppings, or saliva from an infected rodent.

Hantavirus infections are prevalent all over the world, **except for Australia from where no cases have been reported so far.** **South America sees the highest incidences** of cases, followed by North America.

Effects:

- Hantaviruses can cause **Hantavirus Pulmonary Syndrome**, which is an infectious disease characterised by flu-like symptoms.
- It can progress rapidly to potentially **life-threatening breathing problems**.
- The most damage is observed in the lung, spleen and gallbladder.
- It can also cause **hemorrhagic fever with renal syndrome**.
- There are dozens of types of hantaviruses, the **majority of which do not cause disease in humans**.

Understanding the mechanism of infection has been challenging as **hantavirus doesn't seem to cause the disease in the animals that it infects**. There are a number of vaccine candidates currently undergoing trial.