

Anthrax outbreak in Kerala

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In news- After finding several carcasses of wild boar, Kerala health officials have recently confirmed the presence of anthrax disease in the state.

What is anthrax disease?

- **Anthrax, also known as malignant pustule or woolsorter's disease, is a rare but serious disease caused by the rod-shaped bacteria known as Bacillus anthracis.**
- **It occurs naturally in soil and it is primarily a disease of herbivores, with both domestic and wild animals being affected by it.**
- **Anthrax is a zoonotic disease, meaning that it is naturally transmissible from animals (usually vertebrates) to humans.**
- **According to the WHO, Anthrax is generally regarded as non-contagious. There have been instances of person-to-person transmission, however, such instances are extremely rare.**
- **Domestic and wild animals can get infected when they breathe in or ingest spores in contaminated soil, plants or water.**
- **Host animals shed the bacteria into the ground, which sporulates when exposed to the air.**
- **These spores, which can persist in the soil for decades, wait to be taken up by another host, subsequently germinating and multiplying, leading to its spread.**
- **Flies also appear to play a significant role in explosive outbreaks of the disease.**
- **Herbivorous animals can get the disease through contaminated soil and feed, while omnivorous and carnivorous animals get infected through contaminated meat, bones and other feeds.**
- **Wild animals get sick through feeding on anthrax-infected carcasses.**

- People get infected with anthrax when spores enter the body, through breathing, eating contaminated food or drinking contaminated water, or through cuts or scrapes in the skin.
- The spores then get “activated” and multiply, spreading across the body, producing toxins and causing severe illness.
- **Humans can acquire the disease by handling carcasses, bones, wool, hides** or other products from infected animals.
- People that are most at risk of contracting the disease are people that work with animals, such as farmers, veterinarians, livestock handlers, wool sorters and laboratory professionals.
- **Anthrax has usually been found in India’s southern states** and is **less frequently found in the northern states.**
- Over the past years, it has been reported in Andhra Pradesh, Jammu and Kashmir, Tamil Nadu, Assam, Orissa and Karnataka.

The symptoms & treatment of Anthrax-

- **In livestock species**, like cattle, sheep or goats, the **first sign is usually the high fever and sudden death** of one or two animals within the herd.
- **In wildlife, sudden death is also a usual indicator, often accompanied by bloody discharge from natural orifices (mouth, nose, ear, anus), bloating, incomplete rigour mortis** and the absence of clotting of the blood, according to WHO.
- **In humans, cutaneous anthrax symptoms can include groups of small blisters that may itch**, painless skin sores with a black centre, with the possibility of swelling around them. This is the most common route of the disease and is seldom fatal.
- **Inhalation anthrax includes fever and chills, shortness**

of breath, coughing and nausea to name a few. It's the most deadly form of the disease and can lead to death within 2-3 days.

- **Lastly, gastrointestinal anthrax symptoms can include nausea** and vomiting (with blood), swelling of the neck, stomach pain and diarrhoea.
- **Antibiotic therapy that is administered** early in the course of the infection has been proven to be responsive.
- **Penicillin has long been the antibiotic of choice and in recent years,** ciprofloxacin and doxycycline have also been used as alternatives.
- One way to prevent the disease is by vaccination of livestock so that the disease cannot spread.
- There are also vaccines for humans, but their availability is usually restricted to at-risk individuals, such as lab workers and people who handle animals.