

# ANTHRAX

Anthrax is a zoonotic disease worldwide in distribution. Herbivores and human beings are mainly affected.

## Causative agent

Bacteria – '*Bacillus anthracis*'. It presents as vegetative cell or spore. Spores are resistance to various chemicals and adverse climatic conditions.

## Mode of infection

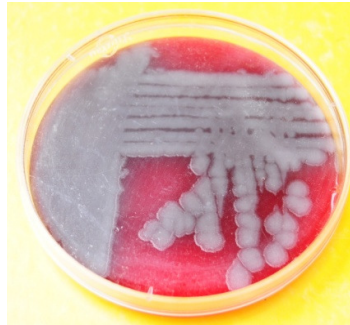
- Wrongly opening the infected carcass
- Aerosol infection during Agricultural practice and tannery work
- Through skin wounds
- Ingestion of infected meat
- Infection by 'bioterrorist attack' and 'biological warfare'

## Clinical signs

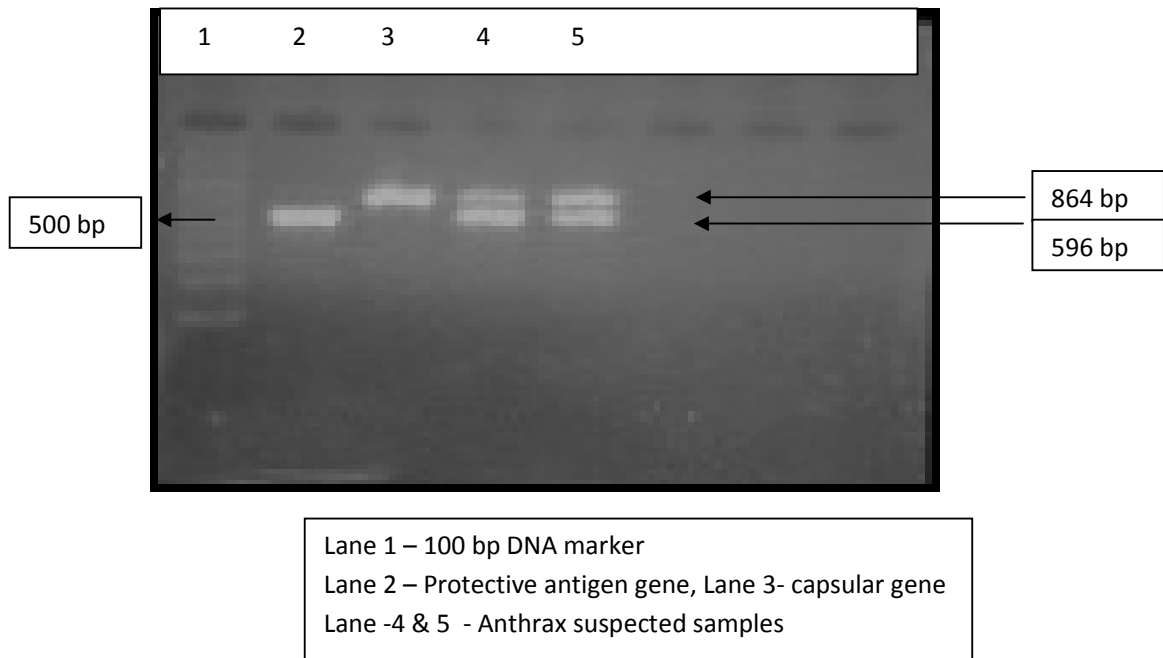
In human the disease occurs in three different forms namely Skin form (carbuncle), Lung form (Pneumonia) and Stomach & Intestinal form (nausea, vomiting, fever, abdominal pain, blood in vomitus, bloody diarrhoea, ascites, toxemia, shock and death)

## Laboratory diagnosis

- Staining and microscopic examination of smear taken from blood and exudates.
- Cultural examination of blood and exudates



- Amplification and detection of toxigenic plasmids by polymerase chain reaction



#### Prevention and control Measures:

- Do not open the carcass nor move dead animal from one place to another & protect the carcass
- Burning or burial of carcasses 6 feet under the ground with quick lime
- Leave the carcass unmoved and adequately closed off from other animals, particularly scavengers, or people
- Prompt disposal of bedding and contaminated materials and area with disinfectant such as 10 % formalin for at least 12 hours contact time or 5% phenol
- Slaughter house and tannery workers and veterinarians should wear protective clothes, gloves, goggles and face mask.
- The hide wool, bone meal or other feed of animal origin has to be disinfected or sterilized as a routine.
- Meat should be purchased from authorized vendors
- Suspicious postal mail should not be opened

# BRUCELLOSIS

Brucellosis is worldwide emerging infectious zoonotic disease caused by *Brucella* sp. There are seven well defined species differing in their host preference and is of public health and economic concerns.

Species*	Host	
<i>B.melitensis</i>	Goats and sheep	*In human all these four species are infectious
<i>B.abortus</i>	Cattle	
<i>B.canis</i>	Dogs	
<i>B.suis</i>	Pigs	

- Brucellosis is also called Undulant fever in humans and is transmitted through contact with animals and animal product such as milk and meat.
- In Livestock it results in reduced production and abortions and is a major impediment for profitability trade and export.

## Prevention and Control

- Vaccination is crucial for prevention and control of brucellosis in animals. Control of brucellosis in female calves by vaccination (*B.abortus* strain-19) and *B.melitensis* Rev 1 strain in goats and sheep.
- Mandatory screening of all breeding bulls and awareness among general public through mass contact programmes
- Wear protective clothes/ barriers while handling still births / products of conception
- Avoid unpasteurized dairy products.