

1. Anthrax Anthrax can occur in 4 forms, depending on the route of infection: cutaneous, inhalational, gastrointestinal, and injection. Cutaneous anthrax begins as a pruritic papule or vesicle and progresses over 2 to 6 days to an ulcerated lesion with subsequent formation of a central black eschar. The lesion itself is characteristically painless, with surrounding oedema, hyperaemia, and painful regional lymphadenopathy. Patients may have associated fever, lymphangitis, and extensive oedema. Inhalational anthrax is a frequently lethal form of the disease and constitutes a medical emergency. The initial presentation is nonspecific with fever, sweats, non-productive cough, chest pain, headache, myalgia, malaise, nausea, and vomiting, but illness progresses to the fulminant phase 2 to 5 days later. In some cases, the illness is biphasic with a period of improvement between prodromal symptoms and overwhelming illness. Fulminant manifestations include hypotension, dyspnoea, hypoxia, cyanosis, and shock occurring as a result of haemorrhagic mediastinal lymphadenitis, haemorrhagic pneumonia, haemorrhagic pleural effusions, and toxæmia. A widened mediastinum is the classic finding on imaging of the chest. Chest radiography may also show pleural effusions or infiltrates, both of which may be haemorrhagic in nature. Gastrointestinal tract disease can present as one of 2 distinct clinical syndromes --- intestinal or oropharyngeal. Patients with the intestinal form have nausea, anorexia, vomiting, and fever progressing to severe abdominal pain, massive ascites, hematemesis, and bloody diarrhea, related to development of oedema and ulceration of the bowel, primarily the ileum and cecum. Patients with oropharyngeal anthrax may also have dysphagia with posterior oropharyngeal necrotic ulcers, which can be associated with marked, often unilateral neck swelling, regional adenopathy, fever, and sepsis. Injection anthrax has not been reported to date in children. Its primary occurrence has been reported among injecting heroin users; however, smoking and snorting of heroin also have been identified as exposure routes. Systemic illness can result from hematogenous and lymphatic dissemination and can occur with any form of anthrax. Most patients with inhalational, gastrointestinal, and injection anthrax have systemic illness. Anthrax meningitis can occur in any patient with systemic illness regardless of origin; it can also occur in patients lacking any other apparent clinical presentation. The case-fatality rate for patients with appropriately treated cutaneous anthrax is usually less than 1%. Even with antimicrobial treatment and supportive care, the mortality rate for inhalational or gastrointestinal tract disease is between 40% and 45% and approaches 100% for meningitis.

2. Choose the correct statement

- a. Cutaneous form presents with the formation of black eschar
- b. Patients with the cutaneous form of anthrax always have associated fever, lymphangitis, and extensive oedema.
- c. Cutaneous form is painless
- d. Cutaneous form presents only with the formation of papule or vesicle

3. Gastrointestinal anthrax can have two syndromes.

- a. True
- b. Not given
- c. False

4. How does the cutaneous form of anthrax start?

- a. papule or vesicle
- b. ulcerated lesion
- c. black eschar
- d. regional lymphadenopathy

5. Injection anthrax can only occur among injecting heroin users

- a. True
- b. False
- c. Not given

6. On what does the form of anthrax depend?

- a. on the age of the infected person
- b. on the place of infection
- c. on the country of origin if the infection
- d. on the way of infection

7. The lowest mortality rate happens for the cutaneous form of anthrax

- a. False
- b. Not given
- c. True

8. The treatment of anthrax does not exist

- a. True
- b. False
- c. Not given

9. What is the presentation of the inhalational form of anthrax?

- a. severe abdominal pain, massive ascites, hematemesis
- b. **fever, sweats, cough, chest pain, headache, myalgia, nausea, and vomiting**
- c. lymphadenitis, haemorrhagic pneumonia, haemorrhagic pleural effusions, and toxæmia
- d. hypotension, dyspnoea, hypoxia, cyanosis

10. Which form of anthrax causes the highest rate of mortality?

- a. Cutaneous
- b. Inhalational
- c. Gastrointestinal
- d. Meningitis