

Abstract

# Outbreak of Cutaneous Anthrax in Kalukhali Upazilla, Rajbari District, Bangladesh 2017

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## Abstract

**Background:** Anthrax is endemic and human infection has been identified in 15 of 64 districts of Bangladesh. Outbreak are associated with exposure to infected animals during droughts, floods or soil disturbances. On September 6, 2017 the civil surgeon of Rajbari District, reported six people with anthrax like lesions with exposure to one sick cow.

**Objective:** We investigated to determine cause of outbreak, describe the epidemiological and clinical features of cases, and to control the outbreak.

**Methods:** We selected cutaneous anthrax cases among the people presented with painless skin lesion including papular, vesicular and depressed black eschar living in Kalukhali, Rajbarj from 27th August to 09th September 2017. Human cases exposure with sick cow identified by contract tracing. We interviewed the suspected cases for clinical symptoms and types of exposure. We collected skin swabs from 5 humans and meat from the slaughtered sick cow and tested these samples by RT-PCR.

**Results:** We found 11 cases from community by contract tracing and 6 cases from medical record. Most (71%) cases were male; median age of cases was 30 years. Among the cases, five females cleaned meat, nine males butchered the animal, and three males carried the meat. Most (59%) cutaneous lesions were found on hands. The cattle became sick after eating of Kolmi shak (water spinach) from a nearby flooded area. Cutaneous symptoms developed in 1 to 9 days (median 5 days). *Bacillus anthracis* was positive by PCR in one cattle meat sample and one human swab sample.

**Conclusions:** This was the first reported anthrax outbreak in the Rajbari district. To control this outbreak, all the cattle in the village were vaccinated and an awareness program to avoid slaughtering of sick cattle was conducted. To prevent future outbreaks, anthrax vaccination of ruminants should be conducted yearly, and priority should be given in the flood affected district.

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