JULY 31, 2023
ANTHRAX OUTBREAKS AND RISK ASSESSMENT
IN GUNUNG KIDUL DISTRICT, YOGYAKARTA PROVINCE, INDONESIA

Since May 2023 Anthrax cases have been identified in Semanu Subdistrict, Gunung Kidul District, Yogyakarta Province, Indonesia (Xinhua, 2023). As many as 25 people were reported to have anthrax and one person died suspected of anthrax. The results of examination of blood samples from 145 people showed that 88 people were seropositive with antibody titers.

On June 2, 2023, the Gunungkidul District Health Office received a report on suspected anthrax from a medical record officer at Panti Rahayu Hospital, Karangmojo with the identity of Mr. WP, male, 73 years old, living in Jati sub-village, Candirejo village, Semanu Sub District District, Gunung Kidul District (Xinhua, 2023).

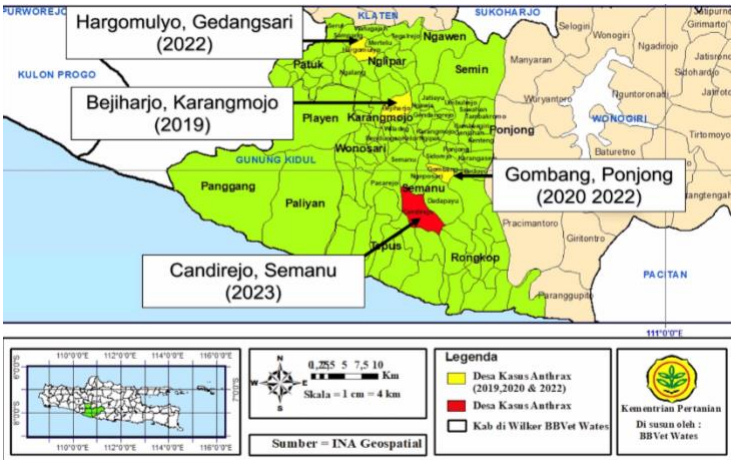

Figure 1 Map of Anthrax Outbreaks Locations in Yogyakarta Province

The chronology of events began with the death of Mr. SY's cow who lived in Jati Hamlet, Candirejo Village, Semanu Sub district on May 22 2023 (Xinhua, 2023). The meat of the dead animals was distributed to the village community for consumption. On May 29, 2023, a resident named Mr. WP who was involved in slaughtering Mr. SY's cow, experienced symptoms of dizziness, coughing, swelling of the axillary glands and small wounds appearing on the legs. Then on June 1, he was taken to Panti Rahayu Hospital for treatment. On June 3, 2023, Mr. WP was diagnosed with Ileus due to bacteria, and experienced a swollen stomach and swollen glands, then he was referred to Sardjito Hospital for further treatment because he felt stiffness in the back of his neck. On June 4, 2023 Mr. WP died at Sardjito Hospital with a diagnosis of suspected anthrax.

Villagers in Gunung Kidul District mostly have jobs as cow and goat breeders. From June 2022 to June 2023, 4 cows and 2 goats were identified that died, suspected to be anthrax (Xinhua, 2023). The results of examination of the soil samples showed positive Anthrax.

Countermeasures undertaken are provision of oral prophylactic therapy to all residents present with medication education, disinfection of residents' homes/environments, Advocacy for limiting livestock mobilization, communication, information, and education about Anthrax to the community, and Health Screening of residents (Xinhua, 2023).

Risk Assessment

Anthrax is caused by *Bacillus anthracis*, a spore-forming bacteria. Humans can become infected by direct or indirect contact with diseased animals, though it predominantly affects livestock and wild game (Mayo Clinic, 2022). Although there is no proof of person-to-person transmission, skin lesions may spread by direct contact with contaminated objects. Anthrax can enter the body by wounds, tainted meat, or breathing spores. Skin sores, vomiting, and shock are some of the symptoms. Most anthrax infections can be treated with antibiotics; however, inhalation anthrax is more dangerous and more difficult to treat.

Based on World Health Organizations' (2012) Rapid Risk Assessment of Acute Public Health Events, Yogyakarta, has a moderate to high risk of people getting infected with anthrax since it was found in their soil and spore can spread. On the other hand, the government of Indonesia is doing surveillance and on-going countermeasures such as vaccination and oral prophylaxis for high-risk individuals.

Recently, the risk of the spread of anthrax to other parts of Indonesia is low to moderate because the mobility of livestock from Yogyakarta is limited. The spread of Anthrax is quite high risk to the nearest district or province, while other provinces are at low risk. Anthrax is not transmitted from human to human, thereby reducing the risk of transmission.

The risk of anthrax travel to other countries from Yogyakarta is low risk because there is no livestock export from Yogyakarta to other countries.

Reference/s:

Mayo Clinic. (2022, May 11). *Anthrax*. Mayo Clinic. https://www.mayoclinic.org/diseases-conditions/anthrax/symptoms-causes/syc-20356203

World Health Organization Publications (2012). Retrieved July 2023, from https://www.who.int/publications/i/item/rapid-risk-assessment-of-acute-public-health-events.

Xinhua. (2023, July 4). *1 killed, 85 infected in anthrax outbreak in Indonesia's Yogyakarta*. Xinhua. https://english.news.cn/20230704/cf58567ad57d4c9a883befb3afee8e25/c.html