

Unravelling anthrax transmission in Gunungkidul: A perspective of Islamic and medical studies

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EDITORIAL

ARTICLE INFO

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DOI: 10.20885/JKKI.Vol14.Iss3.art2

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In early July 2023, an anthrax case was reported in Gunungkidul Regency, Yogyakarta Province, involving local individuals who had consumed meat from unhealthy livestock or had contact with animals dying from the disease.¹ Anthrax is a severe zoonotic infection caused by *Bacillus anthracis*, a rod-shaped bacterium that is aerobic and gram-positive.^{2,3} The transmission of anthrax occurs in three primary forms: cutaneous (skin lesions), inhalation (inhalation of spores), and gastrointestinal (ingestion of contaminated meat or water). Symptoms of cutaneous anthrax include reddish bumps on the skin accompanied by stinging, itching, and swollen lymph nodes around the infected skin. Digestive anthrax symptoms include nausea, vomiting, diarrhoea, and abdominal pain. Meanwhile, respiratory anthrax symptoms have initial symptoms similar to the common cold, such as fever, pain when swallowing, muscle pain, and difficulty breathing. Notably, more than 95% of cases are attributed to bacterial spores entering through skin lesions, while around 12% occur through inhalation, and less than 5% through the digestive tract.^{2,3} Recently, new routes of infection have emerged, such as injection, which spreads spores rapidly throughout the body, making recognition and treatment more challenging. This case has been observed predominantly in injecting drug users. Consuming meat from sick or deceased animals without a clear cause can lead to gastrointestinal anthrax, a rare but potentially fatal form of the disease. Mortality rates for this type of anthrax range from 25% to 60%, and in extreme cases, it can be as high as 100%. Due to the non-specific nature of the symptoms, diagnosis of gastrointestinal anthrax is often delayed, leading to delays in treatment as well.^{3,4}

Currently, no available medicine provides a complete cure for this disease. Although antibiotics such as ciprofloxacin or doxycycline can effectively treat anthrax, the bacterial spores have the potential to persist in the body for extended periods, leading to recurrent disease if the treatment is not adequate.² To control the spread of anthrax, several preventive measures can be implemented. High-risk individuals are recommended to be protected through vaccination, and those who have been confirmed or suspected to have been exposed to anthrax spores can receive post-exposure prophylaxis using antibiotics and vaccines. Additionally, avoiding meat from animals that have died from unknown causes is essential to reduce the risk of infection. Thoroughly cooking meat and practising good handling hygiene are crucial preventive measures. Lastly, vaccinating livestock against anthrax can further contribute to its control.^{3,5}

The “Brandu” tradition in Gunungkidul Regency is believed to contribute to the emergence of anthrax in the region. This tradition involves purchasing cows that have either died or are sick by paying a fee to compensate the livestock owners for their losses. Subsequently, the meat from

these deceased or sick animals is distributed to residents who participate in the dues.⁶ However, it is important to note that consuming carrion, which refers to animals that have died without being slaughtered according to Islamic law (Sharia), is strictly forbidden.⁷ The prohibition of carrion is supported by various arguments in the Qur'an, such as Surah Al-Baqarah 173 and Al-Maidah 3, as well as in the hadith narrated by Ibn Majah in Sunan Ibn Majah book.⁸ It is essential to be aware that Islamic teachings make exceptions regarding certain types of carrion that are not forbidden, including fish and grasshoppers. Additionally, the carcasses of animals that have been hunted can be permissible under specific conditions, one of which is that the hunter utters the name of Allah (SWT).⁹

Regarding the consumption of sick animals in general, it is permissible as long as the animal is still alive and undergoes proper slaughter, according to Islamic law. However, when it comes to diseased animals that threaten human health, Islamic law considers such consumption prohibited. Meat from diseased animals falls into the category of non-tayyib food. The term "tayyib" has various interpretations among Muslim scholars, one of which refers to food or drink that does not harm the human body or mind.¹⁰ The argument for prohibiting such consumption is in a hadith narrated by Ibn Majah, where Prophet Muhammad (SAW) stated, "There should be neither harming nor reciprocating harm." This hadith holds significant importance in fiqh rules, as it prohibits all forms of harm. It serves as the basis for exceptions to the carcass prohibition in emergencies.¹¹ In conclusion, the emergence of anthrax in Gunungkidul Regency is a complex issue with both medical and cultural dimensions. The Brandu tradition, which involves the consumption of meat from unhealthy livestock, has contributed to the spread of anthrax in the region, highlighting the need for a multifaceted approach that combines medical interventions, public health measures, and cultural and religion awareness to effectively address this public health concern.

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