

# Food poisoning outbreak: Poisonous mushroom in the Tanah Merah district

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## ABSTRACT

**Introduction:** Food poisoning is a result of eating contaminated or toxic food. The clinical presentation can vary depending on the source of the infection. Bradycardia is one of cardiac complications associated with food poisoning. Food related bradycardia were reported in mushroom poisoning, ciguatera fish poisoning, organophosphate poisoning, mad honey poisoning and candlenut poisoning. The study objective was to describe an outbreak of food poisoning related to poisonous mushroom causing bradycardia at Kg Ayer Batu, Batu Gajah, Tanah Merah. **Materials and Methods:** The study used cross-sectional design. It involved food poisoning cases defined as any person from Kg Ayer Batu, Batu Gajah, Tanah Merah, who developed any of these symptoms; nausea or vomiting or giddiness or abdominal pain or diarrhea between 20<sup>th</sup> May to 23<sup>rd</sup> May 2023. Epidemiological, environmental and laboratory investigations were performed. Epidemiological investigation included active and passive case detection, food attack rate and epidemiologic curve. Laboratory investigation included full blood count, electrolyte, renal function test, liver function test and ECG. Environmental investigation included premise inspection and mushroom foraging area assessment. Mushroom sample was sent to the Mushroom Research Centre. Data was entered in Microsoft excel. Food attack rate was calculated, and descriptive statistics were described using frequency and percentage. **Results:** Epidemiological investigation showed that the outbreak involved six cases. All cases developed vomiting and giddiness. Three developed bradycardia (50%) and were admitted. Another three cases did not seek treatment. Laboratory investigation showed normal FBC, electrolyte, renal and liver function. The epidemiologic curve showed that the food poisoning outbreak was a common source of single exposure with minimum incubation period of two hours and maximum incubation period of four hours. The food attack rate for mushrooms was 100%. Environmental investigation revealed no evidence of organophosphate pesticide available in the house and no sign of pesticide usage in the mushroom foraging area. The mushroom was identified as *Amanita sp* with muscarinic toxin. **Conclusion:** The food poisoning outbreak at the Kg Ayer Batu, Batu Gajah, Tanah Merah occurred following the consumption of *Amanita sp*. which contain various toxins. The aetiologic agent for the outbreak is muscarinic toxin in the *Amanita sp*. mushroom. An effective health promotion is needed to avoid recurrence of such outbreaks in the future.