


Rabies Encephalitis: Fatal Yet Neglected, A Case Report

Junius Simarmata¹, Kiking Ritarwan²

¹ Resident of Neurology Department, Faculty of Medicine, Universitas Sumatera Utara/ H. Adam Malik Hospital, Medan, Indonesia

² Staff of Neurology Department, Faculty of Medicine, Universitas Sumatera Utara/ H. Adam Malik Hospital, Medan, Indonesia

*Corresponding Author: Junius Simarmata, E-mail: juniussimarmata@gmail.com 

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ABSTRACT

Introduction: Rabies is a zoonotic disease that can attack the central nervous system and can be fatal because it can cause death. Rabies is caused by an RNA virus of the genus Lyssavirus in the family Rhabdoviridae and can be transmitted to humans through contact with infected animals, particularly bites and scratches. Most cases (98%) were caused by dog bites and the rest by other animals such as monkeys and cats. This disease has a very poor prognosis, but can be prevented by vaccination. Rabies virus is a neurotrophic virus that can infect humans and cause fatal encephalitis.

Method: This was a retrospective case report, after analysis of patient clinical data. The patient's family provided written informed consent to publish their case details and any accompanying images.

Results: A 73-year-old man has clinical encephalitis with suspected viral EC with suspected rabies dd/non-specific viral dd bacterial. Patients complain of not being able to swallow and afraid of water, restlessness, hypersalivation, patients are sensitive to sound, shortness of breath, difficulty swallowing, fear of wind, patients want to bite and hydrophobia, aerophobia and hypersalivation.

Conclusion: Rabies eradication is necessary because Indonesians are culturally close to animals, especially dogs, which are the main transmitters of rabies. In some areas, dogs are pets that are very close to their owners. Rabies is a neglected tropical disease. Most cases of rabies occur in Asia and Africa. There is no effective treatment to cure rabies but the disease can be prevented by handling rabies bite cases (GHPR) as early as possible.

Rabies Encephalitis, Fatal Yet Neglected, Rabies Eradication

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INTRODUCTION

Rabies is a zoonotic disease that affects the central nervous system and is fatal, leading to death.[1] Rabies is caused by an RNA virus of the genus Lyssavirus, family Rhabdoviridae that can be transmitted to humans through contact with infected animals, especially bites and scratches.[2,3] Most cases (98%) are caused by dog bites and the rest by other animals such as monkeys and cats. The disease has a very poor prognosis, but can be prevented by vaccination. Rabies virus is a type of neurotropic virus that can infect humans and cause fatal encephalitis. The rabies virus will spread along neural pathways and invade the central nervous system, causing acute infection.[1,4]

METHOD

This was a retrospective case report, after analysis of patient clinical data. The patient's family provided written informed consent to publish their case details and any accompanying images.

CASE REPORT

A man with the initials RM, 73 years old, Batak tribe came to H. Adam Malik Medan Hospital in a state of consciousness escorted by family with complaints of not being able to swallow and fear of water since 2 days, the patient every time he drinks water his throat feels like suffocating, the patient is also afraid of wind and cold air 3 days ago. The patient when seeing water will be restless and also when bathing is said to be restless and like a trance. A history of contact with dogs was found, but it was unclear whether it was bitten or scratched at the top of the nose 1 month ago, when the incident according to the patient when the patient was walking to the mosque, then a stray dog came to attack. At the time of the incident, according to the patient, the face area was bleeding. However, the patient only cleaned it with running water, did not use soap and did not seek help/treatment at a nearby health facility.

The patient had no previous history of heart disease, high blood pressure, diabetes or stroke. There was no family history of such complaints. On physical examination, the patient appeared moderately ill with compos mentis consciousness, blood pressure 130/80 mmHg, pulse frequency 86 beats/minute, strong, regular, axilla temperature 36°C, and respiratory frequency 20 beats/minute. On examination, hyperhidrosis, photophobia, dysphagia, no anemia or icteric in both eyes were found. In the thoracic examination, the movement of the right and left lungs was found to be symmetrical, from percussion obtained sonor in both lung fields, vesicular breath sounds in both lung fields without additional breath sounds such as ronchi and wheezing. Cardiac examination found heart sounds 1 and 2 single, regular, and no murmur. There was no abdominal distension, bowel sounds were within normal limits, liver and lien were not palpably enlarged. Extremities were warm, tremors were found in both fingers and there was no edema. Extremity motor examination had no weakness, sensory examination was within normal limits.

Laboratory examination results at the beginning of the MRS patient in the emergency room showed Hb 14.2 gr/dL, wbc $9.8 \times 10^4 /\mu\text{L}$, platelets $263 \times 10^3 /\mu\text{L}$, gds 165 mg/dL, BUN 40 mg/dl, serum creatinine 0.9 mg/dl, serum potassium 3.5 mmol/L, sodium 135 mmol/L, chloride 105 mmol/L. ECG sinus rhythm and thoracic photos are within normal limits. Based on the results of the history and examination, the patient was diagnosed as Hydrophobia ec Susp. Rabies Encephalitis and given IVFD therapy Rsol 20 tpm, NGT and Urinary Catheter, Paracetamol 3 x 1 gram, Vitamin B Comp, the patient was admitted to the isolation room, and the family was given education at this time the patient was in critical condition, if the patient was exposed to rabies virus the risk of death was very high. On the fifth day of treatment, the patient's condition was increasingly agitated, hypersalivation, the patient was sensitive to sound, shortness of breath, difficulty swallowing, fear of wind and had respiratory failure, the patient was intubated and ventilated. slow (k / p anxiety / agitation), family IEC about the patient's prognosis with a high risk of worsening condition and death, observation plan and supportive management. On the 18th day of treatment, the patient's condition worsened, the patient suddenly stopped breathing and cardiac arrest, CPR was performed but there was no improvement and response for 15 minutes, the patient's family was declared dead.

DISCUSSION

Rabies is a zoonotic disease that attacks the central nervous system and can be fatal. Rabies is caused by the rabies virus, genus *Lyssavirus* of the *Rhabdoviridae* family, transmitted through the bite of rabies-transmitting animals (GHPR) such as dogs, cats, monkeys, and bats. Very few patients survive once clinical symptoms of rabies appear.[5-7] The incubation period averages 30-90 days, influenced by the location of the bite wound, the closer to the brain, such as above the shoulder, the sooner clinical symptoms will appear, as well as the depth of the wound, the type of virus and the amount of virus entering the body.

In this case the patient was diagnosed with Clinical Encephalitis Ec Suspect Rabies based on anamnesis and physical examination of the patient agitated, hypersalivation, the patient is sensitive to sound, tightness, difficulty swallowing, fear of wind, the patient wants to bite and hydrophobia, aerophobia and hypersalivation. The patient also experienced agitation and finally on the fifth day of treatment the patient experienced respiratory arrest and cardiac arrest and eventually died. This corresponds to the symptoms of rabies, the

prodromal stage. The first symptoms are fever, malaise, nausea and sore throat for several days. The sensory stage, where the patient feels pain, heat and tingling at the scar site, is followed by symptoms of anxiety and hyperreactivity to sensory stimuli. The excitation stage is when muscle tone and sympathetic activity become elevated and symptoms of hyperhidrosis, hypersalivation, hyperlacrimation and dilated pupils appear. Very characteristic of this stage is the appearance of various phobias, such as hydrophobia. Contractions of the pharyngeal and respiratory muscles can be elicited by sensory stimuli such as blowing air in the patient's face. Apnea, cyanosis, seizures and tachycardia may occur during this phase. The patient's behavior is irrational, sometimes deranged, and reactive. Excitation symptoms persist until the patient dies. And finally the paralysis stage, where most rabies patients die in the previous stage.[8,9]

The most effective way to reduce or kill the rabies virus in a bite wound is to wash the bite wound immediately with running water and soap/detergent for 10 - 15 minutes. There are three key components to prevention and actions taken after being bitten by an animal with a high risk of spreading rabies, namely: (1) wound care, (2) antirabies serum (SAR), and (3) antirabies vaccine (VAR). The first action to take is to clean the wound from saliva containing rabies virus. The wound should be washed immediately with soap and water (preferably running water brushing for 10-15 minutes, dried and treated with an antiseptic (mercurochrome, 70% alcohol, povidone-iodine, 1-4% benzalkonium chloride or 1% centrimonium bromide), if possible and not suture the wound. If suturing is necessary, situational suturing is performed and SAR is infiltrated around the wound as much as possible and the remainder is injected intramuscularly away from the vaccine inoculation site. In addition, antitetanus serum/vaccine, antibiotics to prevent infection, and analgesics should be considered.[9]

Administration of Anti Rabies Serum (SAR) If the serum is heterologous (derived from horse serum) A dose of 40 IU / kgBB is injected infiltrating the wound as much as possible, the rest is injected IM. Skin test needs to be done first. If homologous serum (derived from human serum) at a dose of 20 IU / kgBB, in the same way. Serum administration can be combined with Anti Rabies Vaccine (VAR) on the first day of visit. Administration of Anti Rabies Vaccine (VAR) within 10 days of infection known as post-exposure prophylaxis or "PEP" VAR IM in the deltoid muscle or anterolateral thigh at a dose of 0.5 ml on days 0, 3, 7, 14, 28 (Essen regimen or WHO recommendations), or administration of 0.5 ml VAR on days 0, 7, 21 (Zagreb regimen/WHO recommendations).[6,10]

The prognosis for rabies patients is generally poor, as mortality can reach 100% once the rabies virus reaches the central nervous system. The prognosis is always fatal, with death from respiratory arrest or cardiac arrest most commonly occurring within 2-3 days after the onset of rabies symptoms. If early treatment is given after being bitten by a rabid dog, such as wound washing, administration of VARs and SARs, the survival rate is 100%. In this patient, the disease progressed during treatment and on the fifth day of treatment the patient experienced respiratory and cardiac arrest, and eventually died. The patient's family had been educated from the beginning of the patient's arrival at the emergency room about the possibility of disease and the risk of death that would occur in the patient [4,6]. Providing service standards according to the correct care can restore conditions and help reduce mortality cases.[10]

CONCLUSION

We presented a 73-year-old male patient diagnosed with Rabies Encephalitis. Patients were treated for eighteen days. The patient developed respiratory failure on the 5th day of treatment and died after 18 days of treatment.

DECLARATIONS

Ethics approval and consent to participate. Permission for this study was obtained from the Ethics Committee of Universitas Sumatera Utara and Haji Adam Malik General Hospital.

CONSENT FOR PUBLICATION

The Authors agree to publication in Journal of Society Medicine.

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COMPETING INTERESTS

The authors declare that there is no conflict of interest.

AUTHORS' CONTRIBUTIONS

All authors significantly contribute to the work reported, execution, acquisition of data, analysis, and interpretation, or in all these areas. Contribute to drafting, revising, or critically reviewing the article. Approved the final version to be published, agreed on the journal to be submitted, and agreed to be accountable for all aspects of the work.

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