

Case Report

Rabies death in a prisoner: necessity for medical history documentation

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ABSTRACT

Rabies is a zoonotic illness with a high mortality rate that attacks mammals' central nervous systems. It is a viral illness that may be avoided with immunization. Up to 99% of the human rabies transmissions occur in dogs, making them the primary cause of rabies mortality in humans. It is a case-report of rabies death in a 55-years old male, a prisoner from Phulbani Jail (Kandhamal), who was presented to MKCG Medical College and Hospital casualty with with chief complaints of difficulty in breathing and difficulty in drinking water since last night on 17 July 2023, at 11:19 pm. The patient had a history of dog bite exposure four years ago, for which he had not received any post-exposure prophylaxis. The patient was identified as having a likely case of rabies based on his previous history of animal bite and clinical manifestations. Patient was declared dead on 18 July 2023 at 10:30 am. Rabies diagnosis was confirmed by pathological examination of brain sample which showed presence of Negri bodies. This case-report focuses on the importance of proper medical history information including any animal bite exposure especially for convicts before admitting in prison so as to avoid later morbidity and its legal consequences. Such kind of incident also shows that there is lack of awareness regarding rabies in community. In this instance, mortality may have been prevented if the patient had finished the anti-rabies vaccine regimen and made it to a higher center in time for immunoglobulin. Increasing rabies vaccination awareness among the general public can help reduce rabies-related deaths.

Keywords: Rabies, Post exposure prophylaxis, Dog bite, Negri bodies, Medical history

INTRODUCTION

Rabies refers to an acute central nervous system viral infection that is caused by Lyssavirus type-1. It is invariably fatal once the symptoms are developed.¹ Globally, rabies is estimated to cause approximately 59,000 deaths annually, with the majority of cases occurring in Asia and Africa.² In India, around 20,000 deaths occur due to rabies every year, with practically 17.4 million individuals being exposed to animal bites consistently.³ In terms of mortality rates, Odisha has been identified as one of the states with a relatively high rate of rabies deaths per 100,000 population, with a rate of 1.9

deaths per 100,000 population, highlighting the seriousness of the disease in the region.⁴

Odisha's government has recognized human rabies as a notifiable disease, emphasizing the importance of monitoring and reporting cases to control the spread of the disease effectively.⁵ The incubation period for rabies is typically 2-3 months but may vary from 1 week to 1 year, depending on factors such as the location of virus entry and the viral load.⁶ Rabies although 100% fatal, is preventable with PEP (Post-Exposure Prophylaxis). Elderly population are mostly being neglected when it comes to providing with treatment. So such cases are generally under reported.

CASE REPORT

A 55-years old male who was a prisoner from Phulbani Jail, Kandhamal district, Odisha, presented to MKCG Medical College and Hospital casualty on 17 July, at 11:19 pm with chief complaints of difficulty in breathing and difficulty in drinking water since last night. As documented by the accompanying police staffs, the patient developed fever, chills and malaise in the jail for which he was taken to district hospital (DHH), Phulbani (Kandhamal) on 15 July 2023 at around 10 pm. At DHH Phulbani, he was kept in the isolation ward and was treated for URTI.

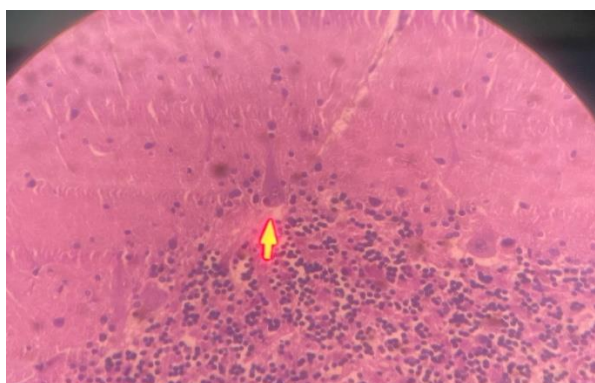


Figure 1: Zoomed image of Negri bodies in brain sample.

The patient's condition deteriorated and he developed difficulty in breathing and drinking water for which he was referred to higher centre i.e. MKCG MCH Berhampur on 17 July 2023 at 11:19 pm. As narrated by Patient's attendants and the Jail Staffs, the patient had a history of dog bite exposure with bleeding on left upper arm four years ago (Category III bite), for which he had not received any post-exposure prophylaxis. It was a stray dog fondly kept as pet. It was an unprovoked bite. No other family members had developed any symptoms in these past 4 years. In the meanwhile, family members were never counselled for ARV. On examination patient was conscious, responding to oral comments, with absence of pallor, icterus, cyanosis, clubbing, lymphadenopathy and oedema. Vitals- febrile (Temp.:103°C), Pulse Rate- 117 bpm, BP-116/86 mm of Hg. Pupils were dilated. Bilateral plantar reflex was diminished. Signs of hydrophobia and aerophobia were present. Other systematic examination was found normal. Based on the history of the dog bite and clinical features, a probable diagnosis of rabies was made. Patient was referred to isolation ward and in spite of all resuscitation measures the patient died the next day. Patient was declared dead on 18 July 2023 at 10:30 am. As he was a prisoner, the body was sent for Post-mortem examination at Department of FMT, MKCG MCH, Berhampur and the cause for death was found to be respiratory failure. On pathological examination of the samples, lungs showed congestion and edema, liver had periportal infiltration and heart showed left ventricular

hypertrophy. The brain sample (cerebellum) revealed characteristic Negri bodies which confirmed the diagnosis of rabies (Figure 1 and 2).

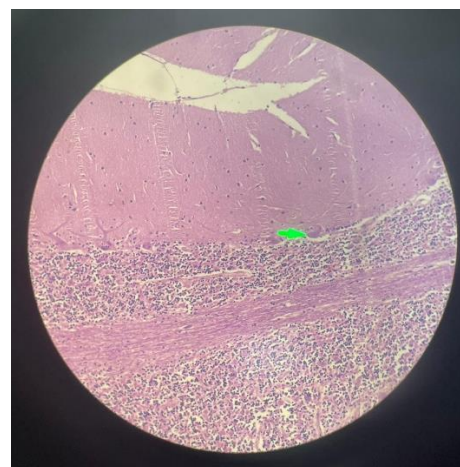


Figure 2: Negri bodies in brain sample.

DISCUSSION

According to World Health Organization survey stray dogs (75.2%) were the mainly responsible for rabies death followed by pets (11.1%).⁷ Adult males are more prone to stray dog bites due to more exposure and spending time outside house. Also, old age people >50 years are generally neglected when it comes to visiting hospitals for seeking treatment for any animal bite. In our study the patient did not receive the anti-rabies vaccine following the dog bite. Similar findings were observed in the other studies of India.⁸⁻¹⁰ Similar case history was also reported by Mohanty et al where the lady was only provided with IDRV.¹¹ The most worth noting history is the long incubation period of 4 years which calls for an aggressive treatment of even a minor injury by animal as well as complete treatment as per the guidelines i.e. proper washing of wound and administration of PVRV and/or ERIG as the case may be. This indicates a rabies awareness gap among the beneficiary, as well as the need for ARV. In light of the aforementioned, health education and sensitization are essential for the control and prevention of the deadly illness as noncompliance with the ARV schedule might be associated with a failure to understand the need to complete the recommended schedule.

CONCLUSION

This case-report focuses on the importance of proper medical history information including any animal bite exposure especially for convicts before admitting in prison so as to avoid later morbidity and its legal consequences. This case highlights the importance of strengthening the documentation measures and rabies prevention, especially in high-risk settings such as prisons. Prisoners should be educated about rabies and the importance of seeking medical attention if they have

history of animal bite. Also, post-exposure prophylaxis should be made available in prisons. Such kind of incident shows lack of awareness regarding rabies in our community. If at the time of bite, patient had completed ARV schedule and visited higher centres for immunoglobulin, death could have been avoided. Overall, this evidence will be helpful for policy makers and jurisdiction to include history of animal bite exposure in case of prisoners. Health education, awareness and sensitization are critical for control and prevention of this fatal disease. It can help to prevent future rabies deaths in this vulnerable population.

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REFERENCES

1. Park K. Park's textbook of preventive and social medicine. 26th ed. India: Bhanot publishers; 2021.
2. Pattnaik P, Mahal A, Mishra S, Alkhouri A, Mohapatra RK, Kandi V. Alarming Rise in Global Rabies Cases Calls for Urgent Attention: Current Vaccination Status and Suggested Key Countermeasures. *Cureus*. 2023;15(12):e50424.
3. Sudarshan MK, Madhusudana SN, Mahendra BJ, Rao NS, Narayana DH, Rahman SA, Meslin FX, Lobo D, Ravikumar K, Gangaboraiah. Assessing the burden of human rabies in India: results of a national multi-center epidemiological survey. *Int J Infect Dis*. 2007;11(1):29-35.
4. Suraweera W, Morris SK, Kumar R, Warrell DA, Warrell MJ, Jha P, et al. Deaths from Symptomatically Identifiable Furious Rabies in India: A Nationally Representative Mortality Survey. *PLoS Negl Trop Dis*. 2012;6(10):e1847.
5. Odisha govt makes human rabies a notifiable disease. Available at: <https://www.newindianexpress.com/states/odisha/2023/Sep/18/odisha-govt-makes-human-rabies-a-notifiable-disease-2615963.html>. Accessed on 20 November 2023.
6. Rabies. Fact Sheet No. 99. Available at: <https://www.who.int/news-room/fact-sheets/detail/rabies>. Accessed on 20 November 2023.
7. Sudarshan MK, Madhusudana SN, Mahendra BJ. Assessing the burden of human rabies in India: results of a national multi-center epidemiological survey. *Int J Infect Dis*. 2007;11(1):29-35.
8. Malkar V, Joge U. A study of compliance of animal bite victims to 4 dose intradermal schedule of antirabies vaccine and factors affecting it. *Int J Community Med Public Heal*. 2015;2(2):156-61.
9. Sahu KK, Manar MK, Singh SK, Singh H. Epidemiological characteristics of patients attending for rabies post-exposure prophylaxis at the infectious diseases hospital of Lucknow, India. *J Glob Infect Dis*. 2015;7(1):30-2.
10. C. K, G. V, Shobha S, S. R, P. S. Profile of dog bite cases attending the outpatient department of an urban health training centre in Bangalore city, India. *Int J Community Med Public Heal*. 2016;3(7):1765-8.
11. Mohanty M, Satapathy DM, Mishra A; Incomplete and improper post exposure treatment leading to rabies: a case study; *APCRI J*. 2015;17(1):26-7.

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