

Case Study

Rodent Bite – A Dilemma for Post-Exposure Prophylaxis – A Case Report

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A B S T R A C T

Rat bites are a significant public health issue worldwide. The actual number of rat bites is likely underreported as not all cases are reported to health authorities. In urban slums, overcrowding is a major factor responsible for the increasing incidence of rodent bites. The pediatric age and those belonging to low-income groups are commonly affected.

Keywords: Rodent bite, Post-Exposure Prophylaxis, Urban Slums, Pediatric

Introduction

Rodent bites can cause zoonotic diseases like rat-bite fever, leptospirosis, and those caused by Hantavirus which may pose severe health risks.¹⁻³ Moreover, the various factors facilitating rat bites include inadequate waste management, overcrowding, and food scarcity, which attract rodents closer to human habitats in urban settings, especially the pediatric population.⁴⁻⁶

Case Presentation

A two-and-a-half-year-old male child presented with complaints of a rat bite on the lower lip. (Figure 1). The child was given a tetanus toxoid vaccine and antibiotic prophylaxis. The case was referred to the author's clinic after consulting others. Initially, as a case of rodent bite, the author did not consider post-exposure prophylaxis (PEP), but, on further probing, it was noticed that the child

resides in a house that is very near to the railway track. The parents revealed that their house is most often inhabited by big and wild rodents that are found near the railway track.

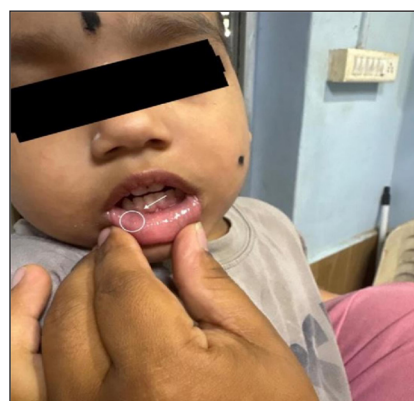


Figure 1.A Child Having a Rodent Bite on Lower Lip

Treatment

Considering these rodents as wild rodents (possibly bandicoots) and as the site of the bite was on the face (lower lip), the author decided to go for PEP without taking any risk.

A cocktail of 2 monoclonal antibodies (Twinrab) was infiltrated around the wound on the lower lip along with a full course of anti-rabies vaccine (Purified Verocell Rabies Vaccine-Inj. Abhayrab) by the Essen regimen, given intramuscularly on days 0, 3, 7, 14 and 28.

Discussion

The clinician is the best judge, especially while dealing with cases requiring rabies prophylaxis. As rabies is practically 100% fatal but can be prevented, hence, taking a detailed history and appropriate action is very vital.

Conclusion

Though bites by domestic rats such as *Rattus rattus* and *Rattus norvegicus* do not require rabies PEP, whenever a clinician suspects that the bite is by a wild rodent, especially on a highly innervated area, then PEP against rabies should be considered.

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References

1. Huang AS, Chen WC, Huang WT, Huang ST, Lo YC, Wei SH, Kuo HW, Chan PC, Hung MN, Liu YL, Mu JJ, Yang JY, Liu DP, Chou JH, Chuang JH, Chang FY. Public health responses to reemergence of animal rabies, Taiwan, July 16–December 28, 2013. *PLoS One*. 2015;10(7):e0132160. [PubMed] [Google Scholar]
2. Fitzpatrick JL, Dyer JL, Blanton JD, Kuzmin IV, Rupprecht CE. Rabies in rodents and lagomorphs in the United States, 1995–2010. *J Am Vet Med Assoc*. 2014;245(3):333-7. [PubMed] [Google Scholar]
3. Childs JE, Colby L, Krebs JW, Strine T, Feller M, Noah D, Drenzek C, Smith JS, Rupprecht CE. Surveillance and spatiotemporal associations of rabies in rodents and lagomorphs in the United States, 1985–1994. *J Wildl Dis*. 1997 Jan;33(1):20-7. [PubMed] [Google Scholar]
4. Kamoltham T, Tepsumethanon V, Wilde H. Rat rabies in Phetchabun province, Thailand. *J Travel Med*. 2002;9(2):106-7. [PubMed] [Google Scholar]
5. Sethi SK, Saha A, Karela M, Dubey NK. Infantile

- trauma due to a rat bite. *J Emerg Trauma Shock*. 2011 Jul;4(3):409-10. [PubMed] [Google Scholar]
6. Hareza DA, Langley R, Ma X, Wallace R, Rupprecht CE. Rabies in rodents and lagomorphs in the USA, 2011–20. *J Wild Dis*. 2023;59(4):734-42. [PubMed] [Google Scholar]