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CASE REPORT

FAILURE OF ANTI RABIES PROPHYLAXIS RESULTING IN A CASE OF RABIES

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ABSTRACT

Rabies is a viral zoonotic disease responsible for an estimated 59,000 human deaths and over 3.7 million disability-adjusted life years lost every year. Our country is endemic for the disease and every animal bite is suspected to be by a potentially rabid animal. The rate of rabies related death rate is 100% in unvaccinated patients and bites by dogs and cats must be considered as a "medical emergency" and the "life-saving" post exposure prophylaxis must be provided immediately. In the present case report we present a 2.5 yrs old male child with history of dog bite on face and in spite of being given rabies immunoglobulin and post exposure prophylaxis developed Rabies 15 days after the bite and succumbed to his disease.

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INTRODUCTION

Rabies is a viral zoonotic disease that causes fatal encephalomyelitis and can affect all warm blooded animals including humans. It is responsible for an estimated 59,000 human deaths and over 3.7 million disability-adjusted life years lost every year.(1) In India, dogs are responsible for about 97% of human rabies, followed by cats (2%), jackals, mongoose and others (1%). The virus is transmitted to other animals and to humans through their saliva and the disease is mainly transmitted by the bite of a rabid dog. Rabies is the most painful and dreadful of all communicable diseases and 100% fatal. The disease can be prevented provide the post-exposure treatment of animal bite is addressed adequately and timely.

CASE REPORT

A 2.5 year old male baby presented with unprovoked dog bite on face on 12th March 2019 at 1730 hrs. Patient had sustained category 3 bite with lacerations on the face : 8 cm long horizontally placed zigzag laceration over right cheek and another obliquely placed laceration starting from left medial canthus and going through infra orbital region extending to left cheek. Both lacerations were skin and muscle deep (Figure 1). The dog was a stray dog of the same locality and was killed by people on the same day.

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The child was immediately taken to the nearest medical facility where thorough cleaning of wound was done with soap and water followed by betadine. The patient received dose of tetatnus toxoid and first dose of Rabipur Vaccine in deltoid region. In view of it being a category 3 dog bite patient was given Equine Rabies Immunoglobulin (ERIG) 40IU/kg after sensitivity test. Maximum amount was infiltrated in and around the wound and rest was given intra gluteally. The patient was subsequently referred to Reconstructive Surgeon on 13th March where the patient underwent wound debridement and suturing of wound was done (Figure 2).

The child received 2nd and 3rd dose on 15th and 19th March 2019 as per the WHO regimen and was followed up by Reconstructive Surgeon on 19th and 23rd March 2019. The child remained asymptomatic till 26th March 2019 when he started complaining pain at the site of bite, headache and restlessness for which patient received symptomatic treatment. On same day evening parents observed that the patient started dribbling of saliva from the mouth, unable to drink water and become violent. Immediately parents got him to our medical facility where Medical Officer observed that patient was having hydrophobia and intolerance to noise and was clinically diagnosed as a case of Rabies. The patient was admitted in isolation ward and started on supportive treatment. Despite best possible measures patient succumbed to his illness on 27th March 2019 i.e. 15 days after the dog bite.

Figure 1. Category 3 Dog Bite on Face

Figure 2. After Suturing of Wound

DISCUSSION

Rabies is a preventable viral disease of mammals most often transmitted through the bite of a rabid animal. Post Exposure Prophylaxis (PEP) as per the WHO guidelines is the main effective approach for preventing the disease. The virus infects the central nervous system and it multiplies in salivary glands and shed in saliva (2). The incubation period usually lasts between 20 and 90 days (may vary from4 days to 19 years). The shorter incubation period depends on severity of bite and exposure in proximity of brain. The early symptoms of rabies include fever, headache, and general weakness or discomfort. The more specific symptoms include insomnia, anxiety, confusion, slight or partial paralysis, excitation, hallucinations, agitation, hypersalivation (increase in saliva), difficulty swallowing, and hydrophobia (fear of water). Death usually occurs within days of the onset of these symptoms (3). Approx 10 million people receive Post-Exposure Prophylaxis (PEP) each year after being exposed to rabies suspect animal bites, only sporadic reports of failure exist (4-6). Wilde (7) had reviewed 15 such cases and the reasons quoted include

a. Rabies immunoglobulin not used at all, injected only intramuscularly and not into wounds or not all bite wounds injected
b. Vaccine or immunoglobulin RIG of poor quality
c. An exceptionally large viral load
d. Virus injected directly into a nerve
e. Unrecognized or unreported deviations from the prophylaxis protocol

Other reasons could be short incubation period of the virus (8), failure to infiltrate maximum rabies immunoglobulin locally and suturing of wound.

Immunocompromised patients, chronic disease, surgery under anaesthesia, concurrent use of serum and antimalarials, alcoholism and drugs, inhibition of response of vaccine by antisera/immunoglobulin and inability to maintain cold chain for vaccine or immunoglobulin in developing countries have been postulated for failure of rabies prophylaxis (4). In the present case report the child died on 15th day after bite. The probable reasons for the cause of death due to rabies in the child might be non receipt of proper local wound treatment and failure to infiltrate maximum rabies immunoglobulin locally and suturing of wound (even though done after vaccine and HRIG administration). Another probable factor may be face as the site of bite along with involvement of left eye (the site being closer to brain and also richly innervated).

Conclusion

The mainstay of prevention and control of rabies is feasible only by general awareness of the public and thorough understanding of the importance of prophylaxis by health care personnel's. Proper local wound treatment, avoiding suturing of the wounds as far as possible and adherence to WHO Post Exposure Prophylaxis protocol as per category of the bite is highly recommended to provide immediate protection against rabies.

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