

Title: EPIDEMIOLOGY AND IMMUNOPROPHYLAXIS COMPLIANCE OF ANIMAL BITE CASES AT AN IMMUNIZATION CLINIC OF A TERTIARY CARE HOSPITAL, IN HARYANA

Author: Yashodha V1, Bharat Paul2

1. Post-Graduate student.
2. Post-Graduate student.
Dept. of Community Medicine, Pt. BD Sharma PGIMS, Rohtak, Haryana

Keywords Rabies, Epidemiology, IDRV compliance

Abstract Rabies, also known as hydrophobia is an acute, highly fatal viral disease of the central nervous system, caused by Lyssavirus type 1. In India alone, 20,000 deaths are estimated to occur annually. Our study aims to determine the epidemiological profile of animal bite cases and the compliance to IDRV (Intradermal Rabies Vaccination) at the Tertiary Care Hospital

Original Article

EPIDEMIOLOGY AND IMMUNOPROPHYLAXIS COMPLIANCE OF ANIMAL BITE CASES AT AN IMMUNIZATION CLINIC OF A TERTIARY CARE HOSPITAL, IN HARYANA

Yashodha V*, Bharat Paul *

ABSTRACT

Introduction: Rabies, also known as hydrophobia is an acute, highly fatal viral disease of the central nervous system, caused by Lyssavirus type 1. In India alone, 20,000 deaths are estimated to occur annually. Our study aims to determine the epidemiological profile of animal bite cases and the compliance to IDRV (Intradermal Rabies Vaccination) at the Tertiary Care Hospital

Methods: A retrospective record based study was carried out on animal bite cases attending the Immunization clinic to seek post exposure prophylaxis for rabies from January 2015 to March 2015. The data obtained was analyzed using simple proportions and percentages. A total of 3059 patients were studied.

Results: Of the 3059 cases, 73% were males & 27% were females; 60.2% were from rural areas & 39.8% from urban areas. Majorities of them (21.2%) were in the age group between 11-20 years. Maximum number of cases were of dog bite (97.1%) followed by 2.1% of monkey bite and rest were of cat and rat bite. Majority of cases (86.2%) were compliant to their intra-dermal schedule and received the required doses of anti-rabies vaccine.

Conclusion: In our study, majority of bites were due to dog. Overall incidence of bites was more in males as compared to females and in rural area as compared to urban area. Most of the patients were compliant to IDRV regimen. It is recommended that regional strategies should be made for prevention and management of bite cases.

Keywords: Rabies, Epidemiology, IDRV compliance.

Introduction

Rabies is a highly infectious fatal viral disease of the central nervous system caused by Lyssavirus. It is primarily a zoonotic disease of warm blooded animals. The virus is transmitted in the saliva of rabid animals and enters the body via infiltration of virus-laden saliva from a rabid animal into a bite wound. Rabies though a 100% fatal disease, is also 100% preventable and still poses a significant public health problem in many countries. Globally human mortality due to endemic rabies is highest in Asia, with the highest incidence and deaths reported in India.⁽¹⁾ India reports about 18 000 to 20 000 cases of rabies a year and about 36% of the world's deaths from the disease.⁽²⁾ In India, rabies affects mainly people of lower socio-economic status and children between the ages of 5 and 15 years.⁽³⁾ There is

significant variation in the epidemiology of animal bite cases at different health care settings. The Indian Government adopted guidelines for Intradermal Vaccination from World Health Organization. Intradermal Rabies Vaccination (IDRV) requires a smaller quantity of vaccine to be injected into skin. It is 60-80% cheaper than the vaccination by intramuscular route. IDRV is also expected to increase the compliance due to lesser number of visits and decreased cost of regimen. Our present study aims to determine the epidemiological profile of animal bite cases and the compliance to IDRV at the Tertiary Care Hospital.

Materials & Methods

Our study is a retrospective record based study done in the immunization clinic of a tertiary care hospital,

*Post- Graduate students, Dept. of Community Medicine, Pt. BD Sharma PGIMS, Rohtak, Haryana.

Haryana. The study period was from January 2015 to March 2015. The records maintained at Immunization clinic during these months of study were analyzed. Study subjects included 3059 animal bite cases who attended the Immunization clinic to seek post exposure prophylaxis for rabies during the study period. The socio – demographic factors that were considered were age, sex and place of residence .Compliance among the patients with different categories of exposure and tetanus toxoid administration were also studied. Statistical analysis was done by simple proportions and percentages.

Results

In our study most number of cases occurred in the month of February and least in the month of January but having no specific trend (Table I). Among the total cases of animal bite, number of animal bite cases in the age group of 11- 20 years was found to be highest 649 (21.2%), followed by age group ≥ 50 years and ≤ 10 years which was 17.6 % & 17.5% respectively (Table II). Based on sex distribution and residence of the total

Table : I
Distribution of animal bite cases

Month	Total No of Cases
January	716
February	1202
March	1141

Table : II
Demographic profile of animal bite cases attending OPD

Demographic Characters	Number	Percentage
AGE (in years)		
≤ 10	535	17.5
11-20	649	21.2
21-30	499	16.3
31-40	440	14.4
41-50	398	13.0
≥ 50	538	17.6
SEX		
Males	2234	73.0
Females	825	27.0
RESIDENCE		
Urban	1217	39.8
Rural	1842	60.2

cases, males constituted 73 % and females 27 % and rural constituted 60.8 % followed by urban 39.8 % respectively. In this study majority of animal bites were due to dogs 97.1% followed by monkey bites 2.1 % (Table III). 52.3% of animal bite cases were of Category III and 47.7% of Category II bites. No of case was of

Table : III
Distribution according to type of Animal Bite

Animal	Number	Percentage
Dog	2970	97.1
Monkey	65	2.1
Cat	18	0.6
Others	6	0.2

Table : IV
Distribution based on Category of Bite

Category	Number	Percentage
Category 1	0	0
Category 2	1459	47.7
Category 3	1600	52.3

Table : V
Compliance to IDRV

Treatment	Number	Percentage
Tetanus Toxoid	385	12.6
ARV		
Schedule Completed	2637	86.2
Schedule not Completed	422	13.8

Category I exposure (Table IV). Of the 3059 animal bite cases only 385 (12.6%) received a dose of Tetanus Toxoid. Only 2637 (86.2%) received all the recommended four doses of ARV and 422 (13.8%) of the total cases did not complete the schedule (Table IV).

Discussion

In this study, almost one-third of the OPD patients visiting the ARV clinic were less than 20 years. A study done by Behera et al. and Mohanty et al.^(4,5) showed prevalence of animal bite in children from 0 to 14 years to be more than 33%. In a study by Lai et al⁽⁶⁾ in Delhi most of them were either children or teenagers (61.9%). In our study 73 % of the animal bites belonged to male gender. In a multicentric study by MK Sudarshan et al⁽⁷⁾ the biting animals were predominantly dogs (91%), cats (4.7%), and other peri-domestic animals (3.2%). In our study the dog bite was reported in majority of cases followed by monkey bites. In our study none belonged to Category I exposure and majority 52.3 % had Category III bites. This also suggests unawareness of people to report to hospital in case of licking by animal. In a study by Behera et al⁽⁴⁾ majority of cases (95.6%) were having Category III exposure. In a study by Sukhshale Neelam D et al⁽⁸⁾ total patients 95 % had received injection tetanus toxoid (TT). Whereas in our study only 13.6 % received Tetanus toxoid this might be due to children under 15 years of age who were completely immunized as per national immunization

schedule, don't need inj. Tetanus Toxoid when reporting for post-exposure prophylaxis for animal bite and some

ANNOUNCEMENT

The APCRI Newsletter is published every six monthly, in October and in April. APCRI members and the members of the Scientific Community are requested to contribute News Clippings, Photographs and Reports on Scientific activity on Rabies and Related matter for publication in the Newsletter.

**Please Contact: Dr. Amlan Goswami, Editor, APCRI
28-A, Gariahat Road, 2nd Floor, Flat No: 2-A,
Kolkata- 700029, INDIA.
Phone: 91- 33-24405826, Mobile : 91- 9830212694.
E-Mail: amlan_kolkata29@rediffmail.com**