Title: A STUDY OF PROFILE OF RE-EXPOSURE CASES AND THEIR COMPLIANCE TO THE INTRA DERMAL RABIES BOOSTER VACCINATION AT THE ANTI RABIES CLINIC OF MANDYA INSTITUTE OF MEDICAL SCIENCES, MANDYA

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Keywords Rabies, Post-exposure, Prophylaxis, Re-exposure

Abstract To describe the socio demographic profile of re-exposure cases reporting to the ARC of MIMS. To assess the compliance to IDRV schedule amongst the re-exposure cases.

Original Article

A study of Profile of re-exposure cases and their compliance to the Intra Dermal Rabies Booster Vaccination at the Anti Rabies Clinic of Mandya Institute of Medical Sciences, Mandya.

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Abstract

Objectives:

1. To describe the socio demographic profile of re exposure cases reporting to the ARC of MIMS

2. To assess the compliance to IDRV schedule amongst the re-exposure cases

Study Setting:

Anti-Rabies Clinic of Mandya Institute of Medical Sciences, Mandya

Study Period:

1st Jan 2011 to 31st Dec 2011

Study Subjects:

All re exposure cases who reported to the ARC of MIMS during the study period were included in the study.

Results:

A total of 102 re exposure cases reported to the ARC of MIMS during 2011.74(72.5%) of them were males. 38(37.3%) were aged less than 15 years.70 (68.2%) were from the rural areas.78(76.4%) of them had category III exposure. 96(94.1%) of the exposures were due to dog. 86(84.3%) of them belonged to lower socioeconomic status.91(89.2%) had performed wound toilet before reporting to the ARC.80 (78.4%) of the 102 re exposure cases completed the required vaccination schedule.

Key Words: Rabies, Post exposure Prophylaxis, Re exposure

Introduction

Rabies continues to claim an estimated 20,000 lives annually in Indi[1]. The reason for this high number of deaths due to a disease that is preventable is attributable to lack of awareness among people about management of animal bites which prevents them from obtaining medical care including Post Exposure Prophylaxis (PEP) and also non compliance to the PEP schedule[2,3,4]. This situation exists in spite of appropriate PEP being available, the use of which would further bring down the occurrence of Rabies deaths in India significantly.

Studies have shown that the drop out rates in people receiving PEP are high and despite efforts made by health professionals the drop out rates continue to remain high[4]. The WHO recommends two booster vaccinations for persons who have been previously received complete PEP or Pre Exposure Prophylaxis (Pr EP). There is very limited information on the PEP among the re-exposure cases[5] and there is a need to study the compliance to the 2 booster doses and hence the present study was taken up at the Anti Rabies Clinic of the Mandya Institute of Medical Sciences

Objectives

The present study was conducted with the following objectives

1. To describe the socio demographic profile of re exposure cases attending the ARC of MIMS
2. To assess the compliance to IDRV schedule amongst the re exposure cases attending the ARC of MIMS

Methodology

This study was conducted in the ARC of MIMS. All cases of re-exposure to animal bite who reported to the ARC of MIMS (Those who had records for having received PEP / Pr EP) during the period of 1st Jan 2011 to 31st Dec 2011 were included in the present study. All those who did not have any information of the previous exposure were excluded from the study.

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Results and discussion

During the study period 4256 new animal bite cases reported to the ARC of MIMS, among these 102 (2.4%) were cases of re-exposure. 38 (37.3%) of the re-exposure cases were children aged less than 15 years of age. Majority of the re-exposures 74 (72.5%) had occurred among males (Table 1).

Table 1
Distribution of re exposure cases by age and Sex

Age	Females	Males	Total (%)
15 years	06	32	38 (37.3)
15 years	22	42	64 (62.7)
Total	28	74	102 (100)

Most of the re-exposure cases 70 (68.2%) were from rural areas. 86(84.3%) of the cases were from lower socioeconomic status as classified using the modified B G Prasad classification. 78(76.6%) of the re exposure cases had category III exposure (Table 2).

Table 2
Distribution of re exposure cases by category of exposure

Category of exposure	Females	Males	Total (%)
Cat I	Nil	Nil	Nil
Cat II	09	24	34 (33.4)
Cat III	18	50	78 (76.6)
Total	28	74	102 (100)

Exposure amongst 96(94.2%) of the bite victims were to Dogs and 5(4.9%) to Cats and 1(0.9%) was exposed to a suspect rabid Cow. 41(42.7%) of the dogs that the study subjects were exposed to in the present study were either community owned or stray and 55 (57.3%) were pet dogs.

The mean time interval between the first and subsequent exposure was 11.3 $\pm$ 9.4 months and the range was from 1 to 36 months

It was noted in the present study that the majority 73 (72.3%) of the subjects were victims of a provoked bite (the total number was 101 as 1 case was exposed to a suspect rabid cow)

The mean time of reporting to the ARC of MIMS after re exposure was 24.24 $\pm$ 24.06 hrs and the range was from 1 hour to 144 hours. It was observed to be not statistically significant compared to the time of reporting of the same victims during the previous exposure, which was 29.9 $\pm$ 38.5 hrs.This delay of nearly a day after the exposure in reporting to the ARC in re exposure cases is a matter concern as all the subjects were aware of the need to report early as was advised during their previous exposure (The high standard deviation is attributable to extreme delays on the part of some victims).

91(89.2%) had performed wound toilet before reporting to the ARC. This is higher than the findings in our own center as was seen among the first time exposed subjects[4].

It was noted that none of the subjects in the present study had applied irritants to the bite wound.

80 (78.4%) of the 102 re exposures cases completed the required booster vaccination schedule of 2 doses on days 0 and 3. This is also again a matter of concern though compliance to the vaccination schedule amongst re-exposure cases is considerably higher at our centre compared to compliance amongst people who have been exposed to animal bite for the first time[4,6].

Conclusion

It is evident from the results of the present study that the problem of re-exposure is present in the study area. The Time gap between the exposure and report at ARC is marginally better among re-exposure cases as compared to first time exposed. The performance of wound toilet was better among the re-exposure cases. These differences were however not statistically significant. It was satisfying to note that none of the re-exposure cases had applied irritants to the bite wound. It was a matter of concern that 22 (21.6%) of the re-exposed cases defaulted to the booster schedule.

Recommendation

Similar studies need to be done on a larger scale and at different centers to assess the burden of re-exposure.

References

1. Association for Prevention and Control of Rabies in India. Assessing Burden of Rabies in India. WHO sponsored national multi-centric Rabies survey. May 2004
2. Icchpujani RL, Chhabra M, Mittal V, Bhattacharya D, Singh J, Lal S. Knowledge, attitude and practices about animal bites and rabies in general community. A multi-centric study. J Comm Dis 2006 Dec;38(4):355-61
3. U S Singh, SK Choudhary. Knowledge attitude, behavior and practice study on dog bites and its management in the context of rabies in a rural community of Gujarat, Indian Journal of Community Medicine. Vol.30, No.3, Jul-Sep 2005
4. Mahendra B J, Harish B R, Vinay M. A study of factors influencing compliance to IDRV at Anti-Rabies Clinic of Mandya Institute of Medical Sciences, Mandya. APCRI Journal Vol XI, Issue I, Jul 2009.
5. Suwansrinon K. Wilde H. Benjavongkulchai M, Banjongkasaena U, Lertarutorn S, Boonchang S, *et al*. Survival of neutralizing antibody showing long- lasting immunity. Vaccine 2006;24:3878-3880.
6. Vinay M, Mahendra B J. Compliance to intradermal rabies vaccination schedule (updated Thai Red Cross) at the Anti Rabies Clinic, Mandya Institute of Medical Sciences Hospital, Mandya, Karnataka state. APCRI Journal: vol XIII, issue I, July 2011.