

Original Article: 

A CLINICO-EPIDEMIOLOGICAL STUDY ON ANIMAL BITES AMONG ELDERLY AT AN ANTI-RABIES CLINIC IN A TERTIARY CARE HOSPITAL IN BENGALURU.

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ABSTRACT

Animal bite injuries in elderly has not been studied and they are a neglected population. The elderly are more prone to stray dog bites.

Objective: To assess the proportion of elderly cases attending an anti-rabies clinic in Bengaluru, to describe the post exposure prophylaxis among the elderly cases.

Results: The proportion of elderly animal bites cases in the hospital was 3.68%. 61.12% of the cases were in the age group of 60-65 yrs. Majority (98.14%) of the wounds were of Category III. 72.53% of the subjects had washed their wounds with Soap & Water. 94.44% were administered anti rabies vaccine. 83.33% followed Intramuscular regimen of Anti-Rabies Vaccination. 92.45% of the cases were administered Rabies Immunoglobulin. About 21.3% of the study subjects had history of previous animal bite.

Conclusion: The proportion of elderly animal bites cases in the hospital was low. The majority of bites were of category-III, most of them had received PEP. None of them required hospitalization.

Key Words : Animal Bites, Elderly Patients, PEP in Elderly.

INTRODUCTION

The World Health Organization (WHO) South-East Asia (SEA) Region consists of 11 countries, of which eight are endemic for rabies. More than 1.4 billion people in the region are at risk of rabies infection and approximately 45% of worldwide rabies deaths occur in Asia.¹ Animal bites are a significant cause of morbidity and mortality worldwide. Dog bites account for tens of millions of injuries annually.² Rabies is a disease of significant health concern. India reports about 20,000 rabies deaths every year and annual incidence of animal bites is 1.74%.³ Most of the studies on rabies are focussed on children and adult

population, as the incidence is particularly high in this population. However, the elderly also constitute a significant vulnerable group. The WHO defines elderly as any person who is aged 60 years and above.⁴ The elderly constitute more than 8% of the population according to 2011 census and are expected to grow over the years. Animal bite injuries in elderly has not been studied and they are a neglected population. The elderly are more prone to stray dog bites, hence with this background, the present study is being taken up.

OBJECTIVES:

- To assess the proportion of elderly cases attending an anti-rabies clinic in Bengaluru.

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- To describe the socio-demographic profile of the study subjects and post exposure prophylaxis received among the study subjects.

SUBJECTS AND MATERIALS

Case record analysis of patients aged 60yrs and above, who had reported for treatment at an Anti-Rabies Clinic (ARC) of a Tertiary Care Hospital, in Bengaluru were the study subjects. The cases that reported from 1st January, 2016 to 31st December, 2016 were the subjects. All cases who fulfilled the inclusion criteria during the study period constituted the study sample. Socio-demographic details, details of exposure, post-exposure prophylaxis received and other relevant clinical data was extracted from medical records and analysed using descriptive statistics like mean and percentages.

RESULTS

A total of 2929 animal bite cases reported to the Anti-Rabies Clinic in the year 2016. Among them, a total of 108 animal bite cases were aged 60 years and above. The proportion of animal bites among elderly was 3.68 % i.e. 1 case of elderly animal bite patient for every 27 animal bite cases reporting to ARC. The mean age of the cases was 66 years and SD \pm 6.82 years. The age ranged from 60 to 95 years. Majority of the cases were in the age group of 60-65 yrs (61.12%) as depicted in Table-I. 72 (66.67%) of the cases were males and 36(33.33%) were females. Majority had not received any formal education (20.36%). About 12.04% had been educated till high school & 12.04% were either graduates or post-graduates. 18.52% were engaged in agriculture. 74.07% were from the urban locality

Table 1
Age distribution of cases (n=108)

Age in years	Cases		
	Male	Female	Total(%)
60-65	40 (55.55%)	26 (72.22%)	66 (61.12%)
66-70	16(22.22%)	05 (13.88%)	21 (19.44%)
71-75	08 (11.11%)	01 (02.77%)	09 (8.33%)
76-80	06 (08.33%)	03 (08.33%)	09 (8.33%)
>80	02 (02.77%)	01 (02.80%)	03 (2.78%)
Total	72(100)	36(100)	108(100)

Table 2
Distribution of cases according to category and treatment (n=108)

Sl.No.	Variable	Number(percentage)
1	WHO category of exposure	
	Category - I	1 (0.93)
	Category - II	1 (0.93)
	Category - III	106 (98.14)
2.	Unprovoked bite	79 (73.15)
3.	Wound wash with soap and water	66 (72.53)
3.	Rabies vaccination	102 (94.44)
	Intra Muscular	85(83.33)
	Intra Dermal	17(16.77)
4.	Rabies Immunoglobulin	98(92.45)

& 19.44% were from rural locality (Remaining did not reveal complete address). 72.23% did not mention anything about their income. 18.52% subjects had a monthly income in the range of 5000 to 10,000, 3.7% each had income in the range of 2000-5000 & more than 30,000. 16(14.81%) cases had reported in the month of September, 12.04% each in February & March.

104 (96.3%) bites were caused by dogs, Cat & Monkey bites were responsible for about 1.85% of total bites each. 65 (60.18%) of the bites were caused by stray dogs, 39 (36.11%) by pet animals and 3(2.78%) by wild animals. Majority of the bites caused bleeding (97.22%). 73.15% of bites were unprovoked bites and 25.92% were provoked bites. 54.63% bites had occurred over skin and 32.41% over clothing.

About 25% of the study subjects reported that the animals which had bitten them had bitten other persons too. 16.67% of the dogs had been fully vaccinated, 29.63% unvaccinated and 46.3% of dog vaccination status was not known. 48.15% of the biting animals were reported to be healthy. 5.55% of the biting animals had died, 6.48% was sick and 7.41% killed and not traceable, 25% incomplete cases information was not available. Only one animal was confirmed to have Rabies. Majority of the bite wounds were on the lower limb (58.33%), followed by those on the Upper limb (33.33%), Head and neck (6.48%) & trunk (6.48%). 47.22% of the wounds were abrasions followed by lacerations (42.59%). Majority (98.14%) of the wounds were of Category III.

Category I & II each constituted about 0.93%, as depicted in table-II.

Among the 108 cases, 84.26% of the subjects had washed their wounds after animal bite. 72.53% of the subjects had washed their wounds with Soap & Water & 21.98% of the subjects had washed only with water. 24.18% of the study subjects had washed their wounds within 15 minutes after the bite. Only about 30.55% of the study subjects had applied antiseptic over the bite wound. About 6.48% of the subjects had applied irritant over the bite wound & the most common irritant used was turmeric powder (42.86%). 3.7% of the cases had their wound dressed and wound was sutured in about 1.85% of the cases. From Table-II, among the 108 cases, 94.44% were administered anti rabies vaccine. 83.33% followed Intramuscular regimen of Anti-Rabies Vaccination. 2 (1.85%) cases were treated as Re-exposure cases. Out of 106 category-III bite cases, 92.45% of the cases were administered Rabies Immunoglobulin. The remaining were advised to take RIG. 97.96% were administered ERIG and the remaining 2.04% HRIG. About 35.71% of the study subjects developed positive reaction to test dose of Equine Rabies Immunoglobulin. Injection Avil, Rantac & Hydrocortisone were administered as Pre-medications. About 17.35% of the cases were administered Rabies Immunoglobulin after dilution with Normal saline. About 32.71% of the study subjects were advised Antibiotics, 33.64% were advised Analgesics/ Anti-inflammatory drugs & 28.97% were advised local antiseptic creams.

About 21.3% of the study subjects had history of previous animal bite and 73.91% of them had taken treatment for the bite. Among them, only 35.29% had taken complete treatment, 23.53% had taken Intramuscular Regimen, 5.88% had taken Intradermal Regimen & 17.65% had taken nerve tissue vaccine. Only 1 person (5.88%) had taken Rabies Immunoglobulin. 2.78% of the study subjects had food/drug allergy. About 18.52% of the study subjects had some form of co-morbidity. Majority of them were Diabetic and Hypertensive.

About 2.78% of the study subjects were found to have habit of consuming alcohol.

DISCUSSION

The average life span of Indians has been increasing over the years. A significant proportion of the population will be constituted by elderly in the coming years. The elderly requires special care and attention. They are vulnerable to several diseases. The elderly suffer from impaired sight, neurological diseases or loss of coordination hence are less able to interpret and react to the changes in the dog's behaviour. They are easy prey for the dog especially while walking outside in the mornings and evenings.

In the present study, the proportion of elderly dog bite cases attending the ARC was comparatively low. The probable reasons could be due to neglect of the bite by the elderly, travel issues, cost factors or neglect of elderly by the people at home. Also, hospital being a referral centre, not all cases shall report to the said centre and hospital based studies will have their own biases. A review of different studies by different authors level 6.7%, 9.6%, 3.9%, 4.94% & 7.22% of the bite victims were aged more than 60 years of age.^{5,6,7,8,9}

More than 90% of the elderly who visited the ARC, did start PEP. This could be due to the fact that cases knew that this was a referral hospital and had come specifically to take PEP. Majority of the cases was unprovoked bite and Category-III exposure. As this was a case record analysis, not much information could be obtained about the compliance to PEP. The elderly were advised to continue the treatment by visiting a health care provider nearest to their home. Similarly, the cases who did not take treatment at this ARC, were advised to take PEP in other government health care facilities. It was assumed they may have continued with the treatment outside/ elsewhere. Rabies can be prevented by appropriate Post Exposure Prophylaxis (PEP).¹⁰

CONCLUSION

The proportion of elderly animal bites cases in the hospital was only 3.68%. The majority of bites

were of category-III, most of them had been administered anti rabies vaccine and immunoglobulin. None of them required hospitalization.

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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 publishing in the Newsletter.

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