RESEARCH ARTICLE

STUDY OF PROFILE OF ANIMAL BITE VICTIMS ATTENDING ANTI-RABIES CLINIC AT JODHPUR

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ABSTRACT

Background: Worldwide, more than 55,000 people die of rabies every year. 40% of people who are bitten by suspect rabid animals are children under 15 years of age. Dogs are the source of 99% of human rabies deaths. Rabies cases are not rare in Jodhpur. Jodhpur is situated in the North-Western part of Rajasthan. Jodhpur has an overall population of about 3.685 Million (Census-2011) and a literacy Rate of 67 %.

Aims & Objective: The present study was undertaken to determine the age and sex wise distribution of animal bite cases and to find out the distribution of victims on the basis of type of animal exposure and site of bite wounds.

Material and Methods: The present study was conducted from 1st January 2010 to 31st December 2010. The animal bite patients attending the Anti-Rabies Clinic, M. G. Hospital, Jodhpur. The present study is a Hospital based study, carried out by interview and examination of the animal bite victims. The present study was carried out by interview and examination of the animal bite patients (Interview of attendants if the bite victim is a very young children) attending the ARC, M.G. Hospital, Jodhpur.

Results: The study shows that maximum number of animal bite cases 1901 (44.75%) were in the adult males. In case of both the male and female children (less than 15 years age group) maximum number of animal bites 600 (42.46%) and 180 (41.66%) were on the trunk, whereas in case of adult males and adult females the most common site of the bite was lower limbs. Category III bite (exposure) was more common in 3088 (72.69%) cases. The most common biting animal is dog in 4062 (95.62%) cases. Maximum number 831 (19.56%) of animal bite cases have occurred in the 6 to 10 years age group children.

Conclusion: The study shows that adult males have higher incidence of animal bite than the adult females. This is due to the more outdoor activity of the males. The most common biting animal is dog and the most common site of bite is lower limbs in adults. The study also shows that Category III bites (exposure) were more common.

KEY-WORDS: Animal Bites; Rabies; Category II; Category III

Introduction

Rabies is a highly fatal disease of CNS caused by the rabies virus and is transmitted predominantly by the saliva of infected domestic or wild animal.[1-5] Rabies remains an important public health issue worldwide due to the prevalence of endemic animal rabies in developing countries. Globally the annual incidence of rabies is about 50000 cases; out of this more than 40000[4] cases are reported in India. In India, rabies is known since Vedic periods as corroborated in Antherva Veda. The Latin word "Rabies" seems to have originated from the Sanskrit word "Rabhas" which means "to do violence" Primarily a zoonotic disease. All warm-blooded animals are susceptible to this infection. Rabies is highly dangerous disease with characteristic long and variable incubation period, a short period of illness, highly distressing symptoms and as a rule ending in death. It is the only communicable disease of man that is always fatal. Louis Pasteur was the first person to diagnose that rabies targeted the CNS. In 1890 he created the rabies vaccine and saved 9 year old Joseph Meister after he had been bit by a rabid dog. Rabies occurs in more than 150 countries and territories.

The present study was undertaken: (a) To determine the age and sex wise distribution of animal bite cases; and (b) To find out the distribution of victims on the basis of type of animal exposure and site of bite wounds.

Materials and Methods

Study Period: The present study was conducted

from 1st January 2010 to 31st December 2010.

Study Design: The present study is a Hospital based study.

Methodology: The present study was carried out by interview and examination of the animal bite patients (Interview of attendants if the bite victim is a very young children) attending the ARC, M. G. Hospital, Jodhpur.

Results

The study shows that maximum number of animal bite cases (1901; 44.75%) were in the adult males, followed by the male (< 15 years) children (1413; 33.26%) cases. The bite cases were least (444; 10.45%) in female (< 15 years) children.

Table-1: Sex wise Distribution of Animal Bite Cases

Month	Male	Female	Male Child	Female Child	Total
January	173	46	125	35	379
February	174	47	129	53	403
March	187	40	121	31	379
April	147	39	118	38	342
May	173	42	147	47	409
June	139	42	124	44	349
July	166	41	131	31	369
August	148	41	103	37	329
September	107	32	92	30	261
October	129	24	96	24	273
November	164	32	107	37	340
December	194	64	120	37	415
Total	1901 (44.75)	490 (11.53)	1413 (33.26)	444 (10.45)	4248

(Percentage is given in parenthesis)

The study shows that in case of both the male and female children (less than 15 years age group) maximum number of animal bites (600; 42.46%) and 180 (41.66%) were on the trunk, whereas in case of adult males and adult females the most common site of the bite was lower limbs in 1050 (55.23%) and 270 (55.1%) cases, respectively. The study also shows that Category III bite (exposure) was more common in 3088 (72.69%) cases than the Category II bite cases, 1160 (27.30%). The maximum number of animal bite cases (415; 9.76%) has occurred in the month of December and the minimum number of cases (261; 6.14%) has occurred in September 2010. The study shows that maximum number (831; 19.56%) of animal bite cases have occurred in the 6 to 10 years age group children. As the age advances the number of animal bite cases decreases, in the 45 to 50 years age group persons the figures are just 169 (3.97%). The study shows that the most common biting animal is dog (4062; 95.62%) followed by the cat (58; 1.36%) and the least common biting animal is Tiger (2; 0.04%).

Table-2: Distribution of Animal Bite Cases on the Basis of Site of Bite

Site of Bite	Male	Female	Male Child	Female Child	Total
Head & Neck	20 (1.05)	8 (1.63)	400 (28.30)	135 (30.45)	563 (13.25)
Trunk	163 (8.53)	38 (7.75)	600 (42.46)	185 (41.66)	986 (23.21)
Upper Limbs	450 (23.57)	108 (22.04)	130 (9.2)	27 (6.0)	715 (16.83)
Lower Limbs	1050 (55.23)	270 (55.10)	50 (3.5)	23 (5.18)	1393 (32.79)
Multiple Sites	218 (11.46)	66 (13.46)	233 (16.48)	74 (16.66)	591 (13.91)
Total	1901 (44.75)	490 (11.53)	1413 (33.26)	444 (10.45)	4248 (100)

(Percentage is given in parenthesis)

Table-3 (b): Distribution of Animal Bite Cases Based on the Category of the Bite

Month	Male		Female		Male Child		Female Child		Total
	Cat II	Cat III	Cat II	Cat III	Cat II	Cat III	Cat II	Cat III	
January	23	150	10	36	21	104	8	27	379
February	66	108	13	34	32	97	13	40	403
March	62	125	10	30	31	90	7	24	379
April	52	95	9	30	42	76	9	29	342
May	65	108	8	34	48	99	9	38	409
June	45	94	11	31	34	90	8	36	349
July	60	106	12	29	67	64	4	27	369
August	43	105	7	34	22	81	7	30	329
September	36	71	8	24	25	67	5	25	261
October	31	98	4	20	22	74	4	20	273
November	44	120	6	26	20	87	6	31	340
December	46	148	12	52	23	97	10	27	415
Total (N)	573	1328	110	380	387	1026	90	354	4248
Total (%)	13.5	31.3	2.58	8.94	9.11	24.5	2.1	8.3	100

Table-3 (b): Distribution of Animal Bite Cases Based on the Category of the Bite

Month	Category II	Category III	Total
January	62 (16.35)	317 (83.64)	379 (8.92)
February	124 (30.76)	279 (69.23)	403 (9.48)
March	110 (29.02)	269 (70.97)	379 (8.92)
April	112 (32.74)	230 (67.25)	342 (8.05)
May	130 (31.78)	279 (68.21)	409 (9.62)
June	98 (28.08)	251 (71.91)	349 (8.21)
July	143 (38.75)	226 (61.24)	369 (8.68)
August	79 (24.01)	250 (75.98)	329 (7.74)
September	74 (28.35)	187 (71.64)	261 (6.14)
October	61 (22.34)	212 (77.65)	273 (6.42)
November	76 (22.35)	264 (77.64)	340 (8.00)
December	91 (21.92)	324 (78.07)	415 (9.76)
Total	1160 (27.30)	3088 (72.69)	4248 (100%)

(Percentage is given in parenthesis)

Table-4: Age wise Distribution of Animal Bite Cases

Month	0-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	>50	Total
January	31	78	61	35	36	26	32	18	12	18	32	379
February	54	72	50	39	36	31	31	27	19	16	28	403
March	39	76	41	38	36	23	23	32	18	19	34	379
April	38	79	38	32	34	22	17	16	17	16	33	342
May	46	82	54	42	34	28	30	27	16	13	37	409
June	35	83	56	34	31	27	14	19	10	11	29	349
July	37	79	48	31	29	27	28	28	17	8	37	369
August	50	48	38	34	27	33	21	22	13	10	33	329
September	35	49	28	21	24	27	20	17	10	15	15	261
October	35	48	34	32	18	28	13	18	19	14	14	273
November	40	62	37	32	34	24	22	20	17	14	38	340
December	53	75	48	45	38	28	22	37	19	15	35	415
Total (N)	493	831	533	415	377	324	273	281	187	169	365	4248
Total (%)	11.6	19.6	12.5	9.8	8.9	7.6	6.4	6.6	4.4	4.0	8.6	100

Table-5: Distribution of Animal Bite Cases based on the Type of Biting Animal

Month	Dog	Cat	Camel	Horse	Monkey	Pig	Tiger	Others	Total
January	372	2	1	0		0	0	4	379
February	386	5	2	0	3	1	0	6	403
March	357	9	3	2	1	0	0	7	379
April	333	2	0	0	2	0	0	5	342
May	392	4	2	0	1	0	0	10	409
June	335	4	0	1	2	0	0	7	349
July	347	8	1	0	2	0	0	11	369
August	305	3	4	2	2	0	0	13	329
September	250	3	3	0	2	1	0	2	261
October	262	5	4	0		1	1	0	273
November	323	9	1	0	1	0	1	5	340
December	400	4	2	0	2	3	0	4	415
Total	4062 (95.62)	58 (1.36)	23 (0.54)	5 (0.11)	18 (0.42)	6 (0.14)	2 (0.04)	74 (1.74)	4248

(Percentage is given in parenthesis)

Discussion

The study shows that maximum number of animal bite cases 1901(44.75%) were in the adult males. This higher number of animal bite cases in males may be due to the more outdoor activity of males. Similar findings were observed by Dr. Indu D et al.[7] they showed that 57.7% of the study subjects were males. In a study conducted by T. R. Behera, D. M. Sathapathy et al.[8] the maximum number (69.9 %) of the cases were in males.

The study shows that in case of both the male and female children (less than 15 years age group) maximum number of animal bites 600 (42.46%) and 180 (41.66%) were on the trunk, whereas in case of adult males and adult females the most common site of the bite was lower limbs 1050 (55.23%) and 270 (55.1%) respectively. Similar findings were observed by Dr. Indu D et al.[7], they observed that 50.1% of the bites were on lower limbs. Similar findings of higher incidence (66.7%) of animal bites in lower limbs were also observed by TR Behera, DM Sathapathy et al.[8]

The study shows that Category III bite (exposure) was more common 3088 (72.69%) cases than the Category II bite cases, 1160 (27.30%). Similar findings were observed by Dr. Indu D et al.[7], they observed that 57.1% of the cases were Category III bites. Similar observations were also observed by Khokhar et al.[9]

The study shows that the most common biting animal is dog 4062 (95.62%) followed by the cat 58(1.36%). Similar findings were observed by Dr. Indu D et al.[7], they observed that majority (74.1%) of the cases were bitten by the dogs and that was followed by the cat bites. A study by Renu Bedi et al.[10] in Ajmer found that dog bites contributed to 90.7% of the animal bits. A similar finding of 84.5% was obtained by T. R. Behera, D. M. Sathapathy et al.[8]

The study shows that maximum number 831(19.56%) of animal bite cases have occurred in the 6 to 10 years age group children. This may be due to their inability to protect themselves from animals. As the age advances the number of

animal bite cases decreases, in the 45 to 50 years age group persons the figures are just 169 (3.97%).

Conclusion

The study shows that adult males have higher incidence of animal bite than the adult females. This is due to the more outdoor activity of the males. The most common biting animal is dog and the most common site of bite is lower limbs in adults. The study also shows that Category III bites (exposure) were more common.

References

1. Park K. Park's Textbook of Preventive and Social Medicine. 21st edition. Jabalhur, India: M/S Banarsides Bhalnot; 2011. p. 250-257.
2. Sudarshan MK, Mahendra BJ, Madhusudana SN, Ashwoath Narayana DH, Rahman A, Rao NS, et al. An epidemiological study of animal bites in India: results of a WHO sponsored national multi-centric rabies survey. J Commun Dis. 2006 Mar;38(1):32-9.
3. World Health Organization. WHO expert consultation on rabies: first report. Technical Report Series No. 931, Geneva: World Health Organization; 2005.
4. World Health Organization. Rabies vaccines - WHO position paper. Wkly Epidemiol Rec. 2002;77:109–19.
5. Ichhpujani RL. Joining hands for rabies control in India. Apcricon 2010. New Delhi: Association for Prevention & Control of Rabies in India. 2010.
6. Centers for Disease Control and Prevention. Rabies (cited February 8, 2013). Available from URL: http://www.cdc.gov/rabies/index.html
7. Indu D, Asha KP, Mini SS, Anuja U, Kirshna S, Mridul Girish, et al. Profile Study of Patinets attending preventive clinic for animal bite at Government Medical College, Thiruvananthapuram. APCRI Journal. 2012;XIV(1):30-32.
8. Behera TR, Satapathy DM, Tripathy RM, Sahu A. Profile of animal bite cases attending the ARC of MKCG Medical College. APCRI Journal. 2008;IX(2):20-25.
9. Khokhar A, Meena GS, MeharaM, Profile of dog bite cases attending MCD dispensary at Alipur, Dehli. IJCM. 2003;28(4):157-60
10. Bedi R, Bedi DK, Tankha A, Choudhary V, Matoria RS. Profile of animal bite cases attending Anti Rabies Clinic of JLN Medical College & Hospital, Ajmer. APCRI Journal. 2006;VIII(1):28-30

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