Original Article

"Drop-Out" Cases in IDRV: A Cause of Concern

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Background: Intra Dermal Rabies Vaccination (IDRV) has lead to a paradigm shift in the Anti Rabies treatment. Since its initiation from 27th April 2007 at the Anti Rabies Clinic of MKCG Medical College Hospital, Berhampur, Orissa, more than 11000 cases have been administered Intra Dermal Rabies Vaccination.

Objectives: To find out the "Drop-Out" rate in Intra Dermal Rabies Vaccination program.

Materials & Methods: Type of study: Longitudinal. Study duration: From 21st Jan to 20th March 2009. Study place: Dept. of Community Medicine, M.K.C.G. Medical College, Berhampur. Study setting: Anti Rabies Clinic of MKCG Medical College.

Study Population: 20% cases requiring Anti Rabies Treatment (58 cases) were selected randomly as the study population.

Study analysis: Percentage, proportion & Chi square test.

Result: Among the randomly selected 58 cases all had Category-III exposure. 43 were males & 40 were from rural areas. Dog was the biting animal in 86.2% cases. Treatment with ERIG & IDRV regimen was initiated in all cases. The drop-out rate from Day '0' to Day '3' was 7 cases (n=58) and from Day '3' to Day '7' was 2 cases (n=51). The drop out rate from Day '0' to Day '28' was 23 cases (39.6%). There was no significant difference in the drop-out rate depending on the type of animal, and the area of residence.

Conclusion: Drop out in IDRV is more than 1/3rd from Day '0' to Day '28'. This is a major concern in the present modified TRC regimen. Further studies should be initiated to achieve 100% coverage in IDRV.

Key words: IDRV, drop-out rate

Introduction :

Among all human infections, rabies is the tenth most common cause of death[1]. Human rabies is endemic in India and annually an estimated 20,000 persons die of this disease[2]

Since 1991, WHO has recommended the ID route of administration for rabies pre- and post-exposure prophylaxis.[3] For some CCVs, equal immunogenicity has been demonstrated by IDRV using at least 60% less vaccine than by IM vaccination. ID vaccination offers a safe and effective method for Post and Pre-exposure prophylaxis against Rabies. Alternative ID regimens have been successfully introduced for post-exposure prophylaxis in developing countries such as India, the Philippines, Sri Lanka and Thailand.[(4)] Intradermal Rabies vaccination (IDRV) is the cost effective method of active immunization against Rabies. The process of IDRV was implemented in the Anti Rabies Clinic (ARC) of M.K.C.G. Medical College Hospital from 27th April 2007.

Materials & Methods:

The present longitudinal study was carried out at the Anti Rabies Clinic (ARC) of the Community Medicine Department at M.K.C.G. Medical College, Berhampur, Orissa over a period of two months from 21st Jan to 20th March 2009.

A total of 289 cases attended the study centre for post exposure prophylaxis against rabies, of which 20% cases (58 cases) were selected randomly as the study population. The selected cases were followed up till completion of treatment. The data was analysed with help of percentage, proportion & Chi square test.

Result & discussion

The study population (n=58) comprises of 43 male with a male to female ratio 3:1. Around 70% male were in the earning age group i.e. 16-45 years where as equal proportion from different age groups in female, excluding under six year age group. The overall age group wise distribution shows that more than half the cases were from 16-45 year age group (62.1%). This was followed by 6-15 year age group, and the least number of cases were from <6 yr group. Around one quarter (22.4%) were from under 15 year age group.

Nearly two third (68.97%) were from rural area and rest from urban area.

The cases were exposed to different types of animals. Majority (86.2%) were exposed to dogs (strays -77.6% and pets- 8.6% of total) followed by Monkeys (8.6%),Cats, Jackals(1.7% each) and reminder 1.7% were due to exposures to other animals.

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The number of cases who attended the study centre to receive the scheduled dose of vaccine on Day 3, Day 7, and Day 28 were 51, 49, 35 respectively. All of these cases were followed-up. The observations are analysed in relation to demography, type of animal, nature of bite etc.

The Day 0 to Day 3, Day 0 to Day 7, and Day 0 to Day 28 drop-out rates were 12.1%, 12.5%, 39.7% respectively. The dropout rate increased with the progress of time.

The Day 0 to Day 3 and Day 0 to Day 7 drop-outs showed very little difference. The Day 3 to Day 7 dropout rate was 3.9%, but, the Day 7 to Day 28 dropout rate was very high (28.6%).

Majority (60.8%) of the drop-outs occurred in the age group of 16-45 yrs.

Drop-out is higher among the literates (42.5%) compared to illiterate, but the difference is not significant ($p>0.05$).

Among the dog bite cases dropout rate (drop out by day 28) was 38%. This is probably due to the fact of the dog causing the exposure remaining healthy and normal for more than ten days after the exposure in the majority of cases.

Nature of bite reveals that drop-out rate (Day-0 to Day-28), in provoked and un-provoked bite are 85.7% & 30.2% respectively which is significant ($p<0.05$).No case of pet dog bite completed the schedule.(Day 0 to Day 28 drop-out rate is 100%). The drop-out among monkey bite cases was 60%. There were no drop-outs in jackal & cat bite cases.

Conclusion:

Drop-out in IDRV is more than 1/3rd from Day 0 to Day 28. This is a major concern in the present modified TRC regimen. The study showed that the drop-out rate from Day 0 to Day 7 was 12.5% whereas from day 7 to Day 28 were 28.6%. A gap of three weeks between Day 7 & Day 28 doses could be a reason for this increased drop-outs. Through counseling of all cases especially those with exposure to stray dogs and other bites is essential so that the drop-out rate can be reduced. Similarly absence of day 14 dose in IDRV may have some impact on the dropout rate. Inclusion of Day 14 and re-modified IDRV regimen of Day 0,3,7,14,28 as 2-2-2-2-2 may be considered in our own country's perspective, which needs further studies to be initiated to achieve 100% coverage in IDRV.

Table I
Dropout status in different characteristics under study

Characteristics	Total cases		Drop-out rate (%)	Remarks
Type of animal	Dog	50	18	p>0.05
	Other animal	8	50	
Residence	Rural	40	42.5	p>0.05
	Urban	18	33.3	
Literacy	Literate	47	42.5	p>0.05
	Illiterate	11	27.3	
Nature of bite	Provoked	7	85.7	p<0.05
	Unprovoked	43	30.2	

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