Project report – Surveillance of Visceral leishmania and HIV Co-infection in Nepal.

Submitted by:

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November 2001.

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1. Abstract: -

Visceral leishmaniasis is endemic in Southern part of the country and the disease is reported from 12 districts. The case incidence is about 43/100,000 and case fatality ranges from 0.84% to 1.75%. Update July 2001 2034 HIV infection and 265 deaths from AIDS have been reported. The estimated HIV injection figure for the year 2001 is 34,000. 940 persons suspected from VL were screened and 177 were found positive. 3 male migrant workers, 2 drug injecting male and 1 cross boarder female sex worker were found to have VL and HIV co-infection. Large number of people from VL endemic area move to urban centers both in India and Nepal and practice unsafe sex with commercial sex workers. Risk for VL and HIV co-infection is high amongst migrant workers and their spouses.

2. Background information:

The available epidemiological data suggest that Nepal is still a low prevalence country. The prevalence is less that 1% among blood donors and antenatal clinic attendees. However the HIV prevalence is dramatically increasing among certain group of population.

The dynamics of the HIV epidemic indicate rapid increase among FSWs, their clients and IDUs. In mid 1990s the HIV prevalence was 2% or below in FSWs and IDUs. In five years time period the prevalence rate has increased to 50% among IDUs and about 20% among FSWs. The prevalence is higher among FSWs using injecting drugs and returning sex-workers from India especially from Mumbai.

Viceral leishmania has come back in endemic form in Southern part of NEPAL. The disease has been reported from 12 districts:

Approximately more than 5.5 million people in Nepal are believed to be at risk of the disease. Since 1980 14685 cases and 215 deaths from the disease have been reported and this figure may be low than actual cases. The case incidence is about 43/100,000 population at risk and case fatality rate ranges froms 0.84% to 1.75%. The situation is made were complex in lack of regular insecticide spray activity and emergence of the disease in adjoining boarder states of INDIA with which there is regular movement of people from both side. HIV/AIDS is also emerging as a major public health problem in NEPAL. The disease has now affected all sector of the society. In visceral leishmania endemic district the HIV situation is made were complex by movement of people looking for job drug abuse and increase in commercial sex trade. As co-infection of HIV and visceral leishmania have been reported from African countries, this need closer look and surveillance in NEPAL, in view of increasing number of VL and HIV cases. Already cases of HIV and VL co-infection is seen in VL endemic areas.

Present situation - data:

Reported HIV cases - 2034 - July 31 2001.

Reported AIDS case - 576 - July 31 2001

Estimated No HIV positive adult and children-344000-December 1999.

- Adult (15 – 49) - 33000
- Women (15 – 49) - 10000
- Children (0 – 5) - 93

Adult prevalence rate - 0.29%

Estimated number of death in adult and children - 2500 - 199

Estimated orphans:

- Cumulative orphans - 2500
- Current lining orphans - 2151

Prevalence of HIV:

- IDUs - 50%
- FSWs - 2– 0%

- STI patients - 0.7– 6.6%
- Blood donors - 0.2 – 0.48%
- ANC attendees - 0.2%

3. **Objective: -**

To Study the prevalence of visceral leishmanias and HIV – Co-infection.

4. **Methodology: -**

4.1 Hospitals based study.

- Serum samples were collected from suspected cases of VL from patients admitted to hospitals.
- Diagnosis of VL was established by demonstration of parasite in bone marrow and by serological tests.

4.2 Field based study: -

- Serum samples were collected from clinically suspected cases.
- VL is suspected in endemic area with a history of fever for 15 days or more and clinically palpable spleen.
- All serum samples positive for formal gel test, and K39 antigen dip-stick were screened for HIV.

4.3 HIV – surveillance based study: -

- All samples positive for HIV were subjected to formal gel test and K39 antigen dip-stick test for VL.
- Positive for HIV were collected from private clinics and SACTS.

5. **Testing procedure for VL and HIV: -**

VL: -

- Bone marrow.
- Formal – gel Test.
- K39 antigen.

HIV: -

- All samples were screened by two different ELISA Test Kits.

6. **Result: -**

Sample size:

- Hospital based study sample - 40
- Field based study sample - 600
- HIV – surveillance based sample - 300

Tables of the result I – V

Age Group	*Total Sample*	*Total – VL Positive*	*HIV Positive*
15 – 19	90	14	X
20 – 29	400	98	4
30 – 39	350	60	2
40 – 49	78	4	X
49+	22	1	X
Total	940	**177**	**6**

Table II – Sex Wise Distribution

Age Group	*Total Sample*		*Total – VL Positive*		*HIV Positive*	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**
15 – 19	60	30	10	4	X	X
20 – 29	302	98	64	34	3	1
30 – 39	276	74	44	16	2	X
40 – 49	54	24	2	2	X	X
49+	20	2	1	X	X	X
Total	**712**	**228**	**121**	**56**	**5**	**1**

Table III – Analysis Of Hospital Based Samples

Sample Size	LD Bodies Positive		K39		HIV	
	Positive	Negative	Positive	Negative	Positive	Negative
40	22	18	22	18	X	40

Table IV – Analysis Of Field Based Samples

Sample Size	Formal – Gel Test		K39		HIV	
	Positive	Negative	Positive	Negative	Positive	Negative
600	178	422	176	424	5	596

Table V – Analysis Of HIV Surveillance Based Sample

Total HIV Positive	Formal – Gel Test		K39		HIV	
	Positive	Negative	Positive	Negative	Positive	Negative
300	4	299	1	299	1	X

7. **Findings: -**

1. Out of 40 clinically subjected cases admitted 22 were positive for LD bodies.
2. Out of 22 L. D. bodies positive cases 22 were positive by K39 antigen dip – stick.
3. Out of 22 cases of L. D. bodies positive VL cases none was positive for HIV.
4. Out of 600 samples collected for VL from field sites 176 were positive by K39 antigen dip – stick.

5. Out of 176 samples positive by K39 antigen dip – stick test 5 were positive also for HIV.
6. Out of 300 HIV surveillance samples 1 was positive both for VL and HIV.
7. Out of 321 positive for VL 6 were also positive for HIV.
8. Out of 6 HIV positive 5 are male and 1 female.

Analysis of VL and HIV co – infection:

1. Male migrant workers	-	3
2. Drug injecting males	-	2
3. Commercial female sex workers	-	1

8. Observation: -

1. Out of 940 suspected samples 177 were found positive for VL.
2. VL and HIV co-infection was detected among 5 male and 1 female.
3. VL and HIV co-infection was seen among migrant worker, drug injecting males and commercial sex worker form VL endemic area.
4. Large number of young males is in move from endemic VL area to urban centers in Nepal and also in India. Most of them are either illiterate or only have school level education.
5. Access to these people for AIDS prevention education campaign is either limited or not adequate.
6. Frequent visit to commercial sex workers by these migrant people is quite common.
7. All city centers in India or in Kathmandu where migrant people from endemic area move for seeking job. HIV prevalence amongst commercial sex worker is quite high.
8. Large number of people from VL endemic area moves to urban centers both in Nepal and India and practice unsafe sex with commercial sex workers, thus risk of VL and HIV – co-infection is quite significant.

Recommendation:

1. There is urgent need to monitor VL and HIV co-infection especially in VL endemic areas in Nepal.
2. To asses and monitor the situation this type of study should continue.
3. Advocacy programe for public education on VL and HIV co-infection should be integral part of both HIV as well as VL prevention programme.

Acknowledgement:

Chairman and members of SACTS are sincerely grateful toDr.PhilippeDesjeux, Trypanosomiases and Leishmaniases unit, Division of Control of Tropical Disease, World Health Organisation, Geneve for supporting this study. We also sincerely thank our co-workers from hospital and field for their hard work and technical assistance.

Obbrevation

VL	-	Visceral Leishmaniasis.
HIV	-	Human Immuno – Deficiency Virus.
AIDS	-	Acquired Immuno – Deficiency Syndrome.
SACTS	-	STD/AIDS Counselling and Training Service.
CSWs	-	Commercial Sex Worker.
+ve	-	Positive.