

Editorial

Elimination of Visceral leishmaniasis in Nepal; Facts and Possibilities

Visceral leishmaniasis (VL) re-emerged in the Indian subcontinent in the mid-1970s after an almost complete absence in the previous fifteen years. Visceral leishmaniasis (VL) is a disease of immense public health importance in Bangladesh, India and Nepal affecting largely poorest of the poor population among marginalized communities living primarily in rural areas. Elimination of VL is feasible in South-East Asian Countries because of its unique epidemiological features: human beings are the only reservoir in the countries, there is only one vector species, which is amenable to control, the limited geographical distribution of the disease. With the availability of new diagnostic tools, available vector control measures and effective medicines, political commitment at the highest level in the endemic countries and encouraging past experience of collateral benefits of the malaria control program, elimination of VL in the region is achievable. Elimination of VL will promote equity and poverty reduction, and lead to socio-economic development of the targeted areas and strengthen the capacity of the health system. Six years ago, leaders from every country agreed on a vision for the future— a world with less poverty, hunger and disease, greater survival prospects for mothers and their infants, better educated children, equal opportunities for women, and a healthier environment; a world in which developed and developing countries worked in partnership for the betterment of all. This vision took the shape of eight Millennium Development Goals, which are providing countries around the world a framework for development, and time-bound targets by which progress can be measured. To achieve the Millennium Development Goals it will be equally important to eliminate this disease from the globe in general and from this sub-continent specifically. Therefore at the initial phase of work, in the case of VL, critical assessment of the problem looking on the different perspective of the disease will be essential to design better effective implementation plan.

This communication is based on the comprehensive assessment of information related to Visceral leishmaniasis on the basis of past research studies conducted in Nepal, and an assessment of the different prospects of control measures. In a study conducted by the author in the visceral leishmaniasis endemic district, Siraha, in the population of 112,029, a total of 996 clinically suspected cases were reported (with fever of long duration and splenomegaly, hepatomegaly, with no malaria) during 1998-2002. Among the suspected cases, 283 subjects were found positive for visceral leishmaniasis by rK39 and 284 had positive bone marrow. Elsewhere, it has been found

that rK39 is both sensitive (97.9%) and specific (99.2%), but the patients remain positive for at least a year following cure. Repeated previous outbreaks and its relation with the poverty, malnutrition and labour migration to Indian boarder States (Bihar and West Bengal) suggests us to give priority to the VL and its control.

Current treatment practices, effectiveness of the treatment and problems and new developments in currently used drugs are looked. Currently used drugs like sodium antimony gluconate (SAG) are becoming ineffective since drug resistance has emerged in some parts of Nepal and India. Amphotericin B is useful but it requires hospitalization for long period and has to be given by injections. Liposomal amphotericin is good drug but is very expensive to be used in poor communities of endemic areas. Miltefosine showed 94 percent efficacy which is comparatively as good as other VL treatment drugs and need to be given for 28 days course. This drug is not advised in pregnancy during the first three months because of risk of teratogenicity of the drug. Women of reproductive age who are treated with miltefosine should be asked to use contraceptives to ensure that they do not become pregnant. The centers contributing on research and VL treatment in Nepal and India should be fully utilized and inter and intra networking of the institutions will be important to achieve the objectives of VL elimination from Indian sub-continent. Involvement of medical colleges and private hospitals will be equally important.

Phlebotomus papatasi, *Phlebotomus argentipes* and *Sergentomyia babu* are the major sandflies vectors reported in the past in Nepal. It has been indicated by the studies that there is no detectable difference in the density of *P. argentipes* between high, and moderate incidence village development committees (VDC), the smallest administrative unit), but collections in the low incidence areas (in winter) were negative. *P. argentipes* was never numerous (maximum 4.4 females collected per man-hour), and was much less common than *P. papatasi*. *P. argentipes* was found in February, March, April, June and September, but not reported in January. Peaks of abundance were recorded in the March and September collections. Past studies have shown that the numbers of reported cases of visceral leishmaniasis in Nepalese villages was unaffected by indoor residual spray (IRS). Time series in treated and untreated villages showed parallel trends in case numbers.

A series of maps through ten years showed that in any one year, the numbers of reported cases were strongly

clustered, but that the concentrations of cases moved rapidly between VDCs. Clearly the transmission can occur rapidly between villages, and it is impossible to predict where next transmission will occur from year to year.

If maximum benefit in relation to cost is the goal, it may be preferable to put all possible efforts into active case detection (ACD) with free treatment. Appropriate use of the drugs with training and capacity development and regular monitoring and evaluation are crucial for better

management of VL cases and achieving successful results. ACD should involve the network of Village Health Workers or Female Community Health Volunteers and the rK39 dipstick test at Primary Health Care Centre level. If IRS is to be a part of the intervention, it is essential that it is carried out effectively, both in areas where the disease has been reported and in neighbouring areas. Integrated vector management need to be monitored for its application and effectiveness for VL elimination.

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The Cardiac Society of Australia and New Zealand. Clinical exercise stress testing. Safety and performance guidelines. Med J Aust 1996; 164: 282-4.

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Cancer in South Africa [editorial]. S Afr Med J 1994; 84:15.
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