Elimination programme for kala-azar in India and Bihar during the last century - ignoring the obvious.

Professor C. P. Thakur, MD, FRCP (London & Edin)

Emeritus Professor of Medicine, Patna Medical College.

Chairman,

Balaji Utthan Sansthan,

Uma Complex, Fraser Road, Patna-800 001, Bihar (India)

Tel.: +91- 612- 2221797, Fax: +91- 612- 2239423

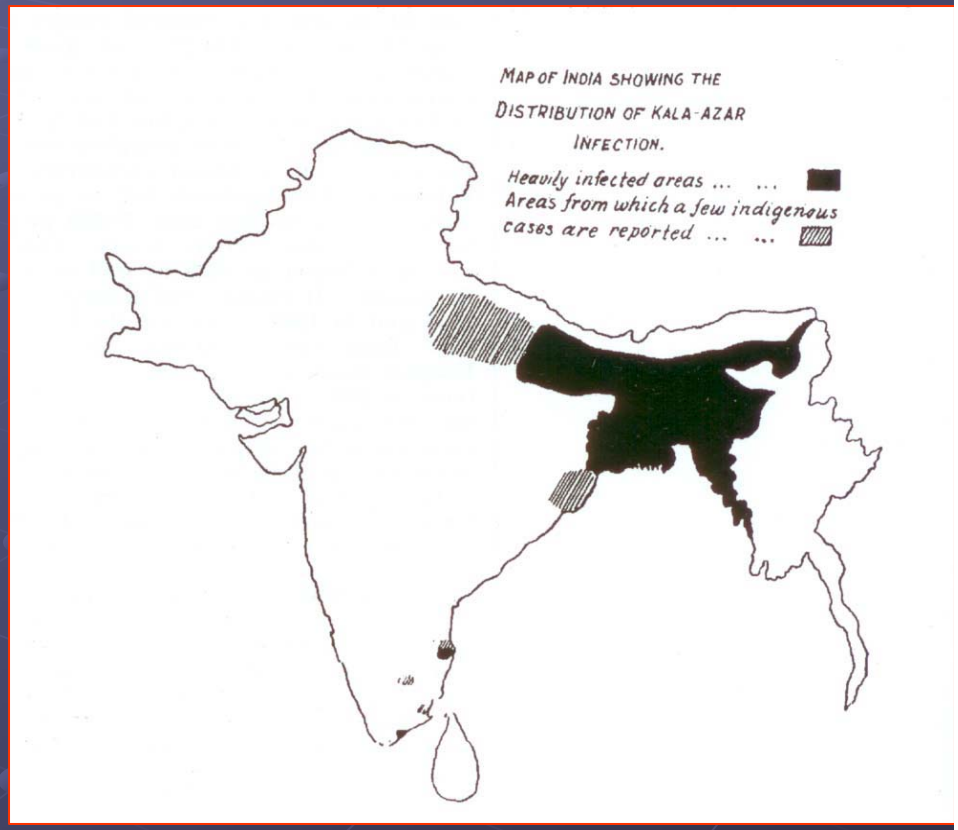
Email: info@bus.org.in, cpthakur1@rediffmail.com, thakurcp@gmail.com

Website: www.bus.org.in

Background

- Incidence of kala-azar in India during 1903, the year in which Leishman1 and Donovan2 described parasites of Leishmaniasis.
- Bengal (now West Bengal and Bangladesh) Assam and Bihar were highly affected, Uttar Pradesh, Orissa & Tamil nadu were sparsely affected.

Fig - 1



1. Leishman WB. On the possibility of the occurrence of trypanosomiasis in India. Brit Med J 1903; 1:1252-54.
2. Donovan CH: On the possibility of the occurrence of trypanosomiasis in India. Brit Med J 1903; 2:79.
3. Sen Gupta PC. History of kala-azar in India: Sir U N Brahmchari Memorial lecture, Royal Asciatic Society of Bengal, May 1947. Quoted in, Indian J Med Res. 2006; 123: 281-286.

After the era of trivalent antimonial, urea stibamine a pentavalent sb compound saved millions. The drug was very effective in Assam epidemic.
Comparison of treated and untreated groups.

Urea Stibamine treated group	Without urea stibamine
Decline of epidemic started in same time in centres of intensive treatment, number of cases remained at lower level, Mortality greatly diminished	Decline of the epidemic started in same time. Number of case remained at higher level, Mortality was higher.
Acute cases	**Chronic cases**
Acute fulminating type during the peak of the epidemic responded quickly, dramatic response of fever, diminution in the size of the spleen and return to normal condition of health	Chronic type of case response to treatment more gradual. Required a larger dose of the drug. Greater number of refractory cases.

4. **Shortt H.E. Introduction: Indian Medical Research Memoirs no 25, August 1932. PP 1-6. Reports of the kala-azar Commission, India. Report No II (1926-1930). Thacker, Spink & Co, LTD; Calcutta.**

- The era of urea stibamine continued till 1930's and 40's and then the manufacturing of the drug was discontinued.

  From 1953 to 1964 was the era of vector control – treatment of residual cases of kala-azar & PKDL were ignored.

  Treatment of cases was done with sodium stibogluconate at a dose of 6 ml daily for 6-10 days. In 1970’s 30% of the patients were insensitive to the drug. Later the drug was found ineffective and highly toxic. In a recent survey 345 patients died during treatment with this drug.

- Large number of cases of PKDL were reported in 1964. Certain pessimism was expressed over for the treatment of PKDL. Usually about $^{2}/_{3}^{rds}$ of nodules and erythematous cases and half the cases with hypopigmented macules are completely cured and marked improvement is noted in about $^{2}/_{3}^{rds}$ of the remaining case. In about $^{1}/_{6}^{th}$ of the total cases no or slight improvement is noted. Relapse of dermal leishmanoid after improvement is not very rare.

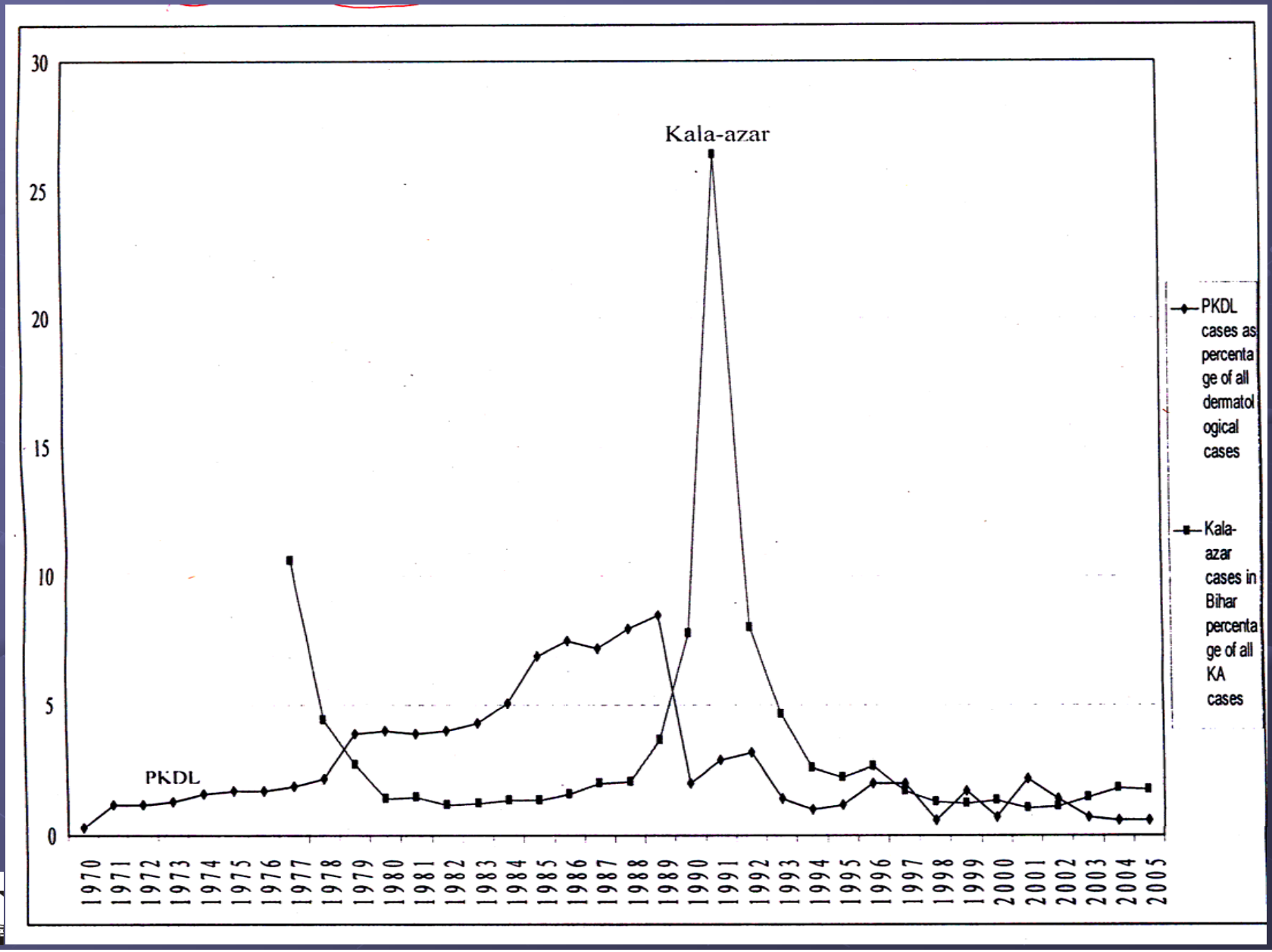
- We changed the criteria of cure: 1 All lesions should disappear. All lesions disappeared with SAG in the beginning and later with amphotericin B. 3 to 4 interrupted courses of SAG and later 3 to 4 interrupted courses of amphotericin B were used. No case relapsed.

Useful drug for the use in epidemic.

- SAG ineffective and toxic - left.
- Amphotericin B - 20 days' course - very effective and reduced the incidence of PKDL also.
- Ambisome- expensive- has not been used extensively.
- Amphomul –it is being evaluated again.
- Miltefosine – Sort supply, not suitable for an elimination programme unless supply is insured.
- Paromomycin- Under going phase IV trial.
- Plant Medicine in the process of development.

Diagram

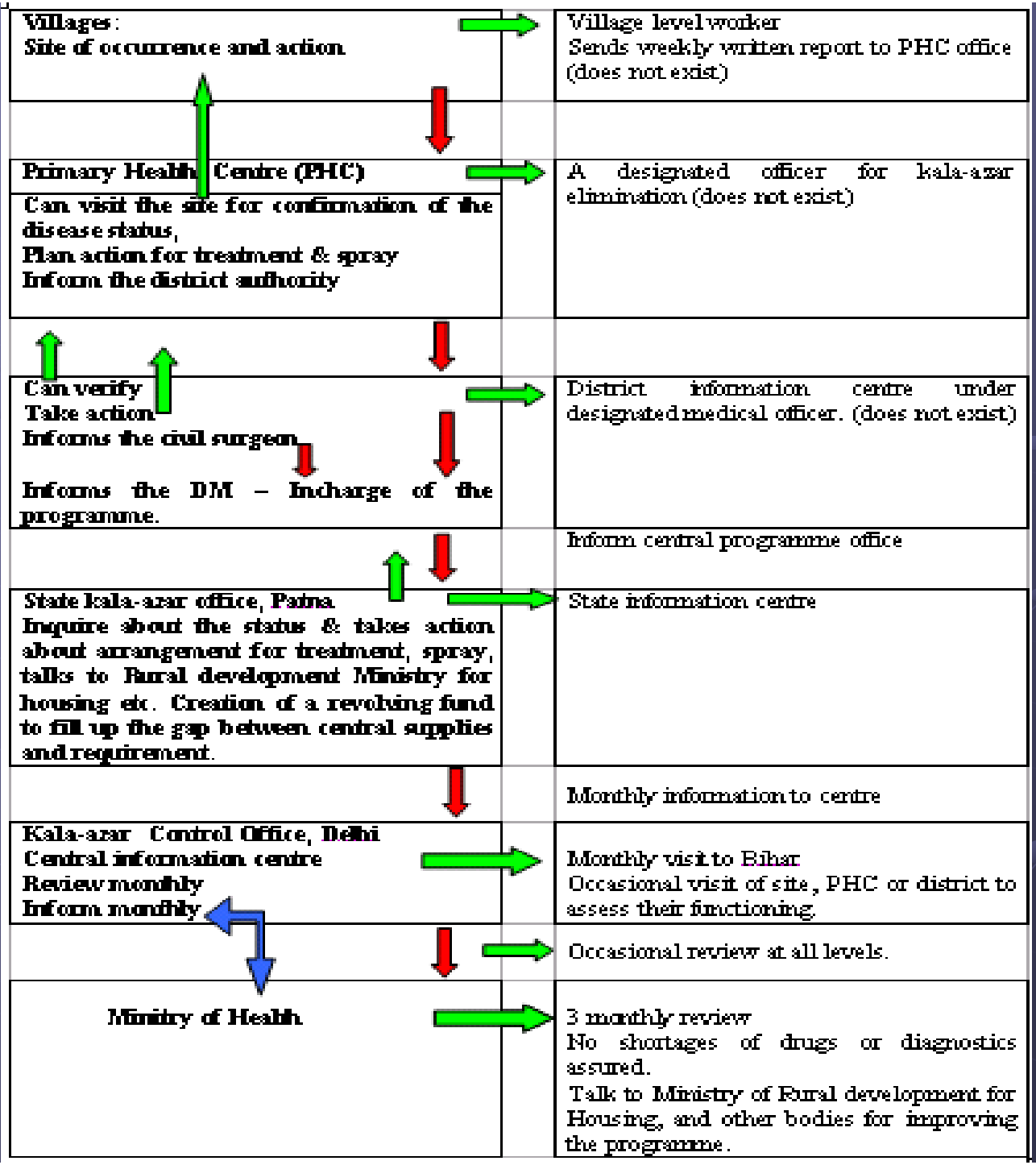
The incidence of kala-azar and PKDL in Bihar from 1970 to 2005.



- We devised an improved camp strategy for kala-azar elimination in a village Goanpura near Patna in which identification of kala-azar cases was done in a camp by testing all cases of fever with rk-39, transferring those patients to our hospital at Patna, treating all of them with 1mg/kg body wt. of amphotericin B for 20 days. And supplementing the treatment programme with supervised DDT spray programme. The kala-azar was eliminated from that village.

Revamping the kala-azar elimination programme.

Fig-2
A Schematic representation of kala-azar elimination programme.



Conclusion: -

Determination to eliminate kala-azar should be there.

Adequate supply of amphotericin B & facilities for use in Primary Health Centres ensured.

Training of doctors and technicians.

Supervised DDT spray for vector control and efficacy of the drug on vector, optimal spray of the drug ensured.

At least a 10 yrs programme should be undertaken.

Thank you.