VDRL SERO-SURVEY IN SAGAR DISTRICT OF MADHYA PRADESH

SUBHASH CHAKRABORTY * T. K. GHOSH † AND MAHENDRA DUTTA ‡

Summary

A VDRL sero-survey conducted amongst the population in the age-group 10 years and above in five selected villages of Sagar district of Madhya Pradesh elicited an over all participation from 1.9 per cent of the population covered. Of the 203 sera tested, one (0.5 per cent) was reactive. Of the 46 sera collected from cases in Sagar District Hospital under treatment for complaints other than sexually transmitted diseases (STD), two (2.2%) were reactive. Problems of STD sero-survey in the community and measures to overcome them have been discussed.

KEY WORDS : VDRL, Survey, Sagar.

Introduction

Veneral Diseases Research Laboratory (VDRL) test, in spite of being a non-treponemal test, has been accepted as an important tool in screening of treponematosis, mainly because of its comparatively simple technique, high sensitivity and specificity. In India the test has been reported to be at least ninetyfive per cent sensitive in syphilis cases and atleast ninety six per cent specific in non-syphilitic cases[1]. Biologically false positive (BFP) reactions are known to occur, but can be avoided to a great extent by following standard techniques, using standard reagents and by routinely quantitating all reactive and weakly reactive sera. Usually, a confident diagnosis of syphilis may be made if the sera are reactive at dilution 1 in 8 or above[2,3].

In spite of easy performability and high reliability, the test is hardly being routinely undertaken in most of the health and medical institutions in India, except in clinics for sexually transmitted diseases (STD), state level hospitals and laboratories, and the medical colleges. Community based studies are further rare because of administrative and organisational difficulties, general resistance to being bled, and social stigma attached to STD.

A VDRL sero-survey was organised and conducted in a selected area of

* Senior Medical Officer.

‡ Assistant Director (Epidemiology).

† Deputy Director (Epidemiology).
National Institute of Communicable Diseases
22, Sham Nath Marg,
Delhi-110054.

Request for Reprint :
Dr. Subash Chakravarty,
Senior Medical Officer,
N I C D, Delhi-54

Received for publication on 8—3—1983

Madhya Pradesh during December 1981, by a team from National Institute of Communicable Diseases, Delhi, with the objective of eliciting information on the VDRL reactivity status in the area. The observations are presented in this communication.

Study Area

Malthone block is a remote area in Sagar district with block headquarter and Primary Health Centre (PHC) at Malthone. The population in the area is mostly agrarian, there being no industry in the area. A few people are engaged in service or petty business. Literacy amongst the population above twenty years is very low, though the young boys and girls are going to school in large numbers now. The nearest town with cinema hall is about 40 Km away. Movement of the population is restricted mostly to the nearby villages / 'mandis', except for the few businessmen or service-holders. Socio-cultural ties and religious influence are strong in the area. Scheduled castes and scheduled tribes together form about one-fourth of the population. Malthone village has facility of electricity.

Material and Methods

To obviate the difficulty of social stigma attached to STD, the VDRL sero-survey was combined with the sero-survey for Japanese encephalitis (JE) in five selected villages of Malthone block. The sero-survey for JE was given wide publicity through the PHC and its subsidiaries, village elders and natural leaders. Total house-to-house census for the population in the age group 10 yrs and above was conducted in the selected villages. They were advised blood examination for determination of their resistance against the 'brain fever' (JE). Venous blood was drawn from consenting persons. The sera collected were examined for VDRL reactivity in the field laboratory by slide flocculation method using serial dilutions for reactive sera[4]. The test reagents were from Government of India Serological Laboratory, Calcutta. Besides the selected community, 46 cases under treatment at Sagar District Hospital for complaints other than STD, were also screened with VDRL test. The serological examination for JE was undertaken at NICD, Delhi, and the results are being presented elsewhere.

Results

The details of the population surveyed and the VDRL reactivity amongst them are presented in Tables 1 and 2. Of the five villages surveyed, one village was not serologically screened because of total uncooperation of the villagers. Population screened in the other 4 villages varied between 1.4% to 2.7% the overall screening for all the villages visited being 1.9%. Of the total 203 sera collected from the community, only one (0.5 per cent) was reactive at serum dilution 1 : 8. The reactive serum was from a 23 years old married male who had education upto 11th standard, was doing business and often travelling to Sagar and other towns. Of the 46 sera collected at Sagar Hospital, two (4.4 per cent) were reactive at dilutions 1 : 8 & 1 : 16. The sera were from two females, both 20 years old; one of whom being a post-natal case who had given birth to her first child one and half months prematurely.

Discussion

The striking feature of the survey is the poor response from the community which was not altogether unexpected. The coupling of the survey for VDRL reactivity with that for JE helped the sera collection process to a great extent; as the people were conscious of epidemics of JE in the neighbourhood areas of Madhya Pradesh and Uttar Pradesh. However, the fear

TABLE 1
Population and VDRL reactivity in surveyed villages / hospital Sagar district

Village	Population (10 years & above)	Population sero-surveyed			
		Male	Female	Total	Percentage (Total only)
Malthone	4,018	34	23	57	1.4
Barodia Kalan	2,415	28	23	51	2.1
Rajwans (with hamlets)	2,985	55(1)	26	81(1)	2.7
Andela	855	7	7	14	1.6
Atta	497	0	0	0	0.0
All Villages	10,770	124(1)	79	203(1)	1.9
District Hospital, Sagar		17	29(2)	46(12)	
Community + Hospital		141(1)	108(2)	249(3)	

Note : Figures in parenthesis indicate number of VDRL reactive cases

TABLE 2
Age-sex distribution of population surveyed and VDRL reactivity in Sagar district.

Age (in years)	Malthone Block			Sagar Hospital			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
10—19	11	10	21	1	3	4	12	13	25
20—29	33(1)	10	43(1)	6	13(2)	19(2)	39(1)	23(2)	62(3)
30—39	30	20	50	3	7	10	33	27	60
40—49	21	29	50	6	4	10	27	33	60
50—59	23	8	31	1	1	2	24	9	33
60 & above	6	2	8	0	1	1	6	3	9
Total	124(1)	79	203(1)	17	29(2)	46(2)	141(1)	108(2)	249(3)

Note : Figures in parenthesis indicate number of VDRL reactive cases.

and apprehension in being bled was too strong to evoke a wider response. The social stigma attached to STD was also too high to allow discussions on the subject in public gatherings. In all considerations, it is felt that, for the purpose of sero-survey in the community, something more is necessary to be done if significant number of sera are to be obtained. Combining the sero-survey with mobile treatment camps with facilities for free medical consultation and drug distribution may be more useful.

Within the restrictions of limited number of sera, it may be concluded that VDRL reactivity in the surveyed community is low (0.5 per cent). Sero-positivity rate for VDRL has been reported to be 3.5% in Sikkim[5] and 12.3% in Manipur[6]. Surveys in the Kulu Division of erstwhile Punjab (now in Himachal Pradesh), Jaunsar Bawar area of Uttar Pradesh, and some areas of Jammu and Kashmir have revealed as high as 30-40% sero-positivity whereas the overall prevalence of syphilis in India is estimated at about five percent[7]. Detection of comparatively higher reactivity (4.4 per cent) among the hospital cases which mostly hail from the town itself, may be an indication of influence of urbanisation on the incidence of the disease. Similar phenomenon has been observed in other areas also[3]. The present study acts as a pointer to the necessity for further studies in the area and also for institution of routine practice of VDRL examination in hospitals, specially in antenatal clinics.

Acknowledgement

The authors wish to express their sincere thanks to the Director of Public Health and Family Welfare and Director of Medical Services, Madhya Pradesh, as well as to the Civil Surgeon, and the District Health Officer, Sagar District, and the Medical Officers of Malthone PHC, for providing all facilities for the survey. Thanks are also due to the paramedical staff of the district Head Quarters the PHC and the subcentres but for whose help the survey would not have been possible. The excellent technical assistance by S/Shri Hari Singh, Yashpal Singh, S. K. Sabharwal and Mahinder Singh of NICD is also acknowledged.

The authors thank the Director, NICD, for his kind permission to publish the observations.

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