

The Seroepidemiological Studies of *Sand fly fever* in Iran During Imposed War

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ABSTRACT

Little is known about sand fly fever with manifestations such as severe fever, headache and photophobia at the frontiers before the imposed war Iraq against Iran (1980-1988). In this article the seroepidemiological study of sand fly fever in different western provinces of Iran were investigated during imposed war Iraq against Iran from March 1987 to March 1988. Seroepidemiological studies were carried out on affected soldiers by using Complement fixation (CF) and Hemmglutination inhibition (HI) tests. Two serums were taken, first in the acute period and the second one in convalescence period of the disease. Obtained results showed that in mehnan (Ilam) province 60% of combatants had antiserum against Sicilian and 46% had the Naples virus. In Gilaneghrab (Kermanshah province) all three sera obtained from three combatants were positive for Sicilian virus and one at them was positive for the Naples virus as well. The findings showed that, non-immure people travelling to the western boarders of Iran, are taken as susceptible to the disease. Consequently, should be protected appropriately protection including usage health measures in particular using bed-net and repellents

INTRODUCTION

Sand fly fever that is also called three day fever, papatasi fever and phobtomous fever (8) is one of the arbovirus disease which can be transmitted via sand fly bite (4,5,9) and transovarial transmission of virus within phlebotomus species (15).

Sand fly fever virus can be classified as a bunyaviridae family viruses (3). Many serotypes of virus as sand fly fever have been reported so far, but, Sicilian and Naples are the most prevalent cases in many infected countries amongst the other serotypes (9,10,16). Nape virus was found by Sabin and Paul in 1924 during an outbreak of the disease in Naples county, Italy. Sicilian virus was isolated from Italian soldiers during world war II (9). It has to be said that, many rodents could be acted as a reservoir of the disease(5). Based on many documents, it's believes that, the disease caused many problem in Persian Gulf regions during World War II (1). In Iran desises well discribed by Djavadian and co-workers (7) Tesh and co-workers (11,12,14) Saedi and co-workers (13).

The aim of this study was to characterize the situation sand fly fever among combatants during imposed war in western boarders of Iran Including (Ilam and Kermanshah provinces) from 1987 to 1988. Supporting objectives were to identify sand fly fever antibody-positive in soldiers.

MATERIALS AND METHODS

Questionnaire

Each individual completed a questionnaire regarding their sign and symptoms including fever Malaysia headache and photophobia based on physicians diagnosis.

Collection of Sera

12 serum samples were collected from March 1987 to March 1988. The samples were collected (7cc blood from each

individual) from suspected patients who had fever, headache and other specific clinical sign and symptoms which mentioned earlier according to physician clinical diagnosis and then transferred to Tehran University of Medical Sciences and stored in -20°C .

Differential Test

For differencing of disease from other disease such as Malaria. The blood test was tested to find out the possible organisms.

Test of Sera Samples

The sera samples from individuals were examined by using Haemmglutination inhibition (HI) tests in Division of Virology in School of Public Health, Tehran University of Medical Sciences. The reagent used sand fly fever Antigens (Sicilian and Naples) which was obtained Senegal arboviruses Laboratory (W.H.O. arboviruses branch). Sensibilise the V plate, was used in order to perform Haemmglutination test. In different arboviruses dependent to rate of pH, therefore antigens with appropriate pH, (6.2 in PBS) Human red cells O serogroup were used. The serum of each patient diluted from 1/10 to 2/64. Antigens were added to each sera dilutions and incubated at 4°C for 18 hr, afterward the 0.5% human red cells added to each sera after 1 hr at 24°C the results were obtained. The last dilution which inhibited

Haemmglutination with consideration of control test, as Ab Titer was accepted.

RESULTS

12 samples suspected patients (9 from Ilam and 3 from Kermanshah provinces) from two various provinces in western

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boarders of Iran were examined from March 1987-March 1988. The result was shown in Table 1.

Table 1. The percentage of sand fly fever Ab positive patients against Sicilian and Naples in western regions of Iran from March 1987 to March 1988. Based on Haemagglutination inhibition (HI) test

Provinces	Virus Situation							
	Sicilian				Naples			
	+	%	-	%	+	%	-	%
Ilam (Mehran)	9	60.0	6	40.0	7	46.0	8	54.0
Kermanshah (Gilanegrah)	3	100	0	0	1	33.3	2	66.7
Total	1		6		8		1	
	2						0	

DISCUSSION

The findings showed that, three sera which obtained from three suspected patients in Gilanegrah district (Kermanshah province) were positive against Sicilian virus, on the other hand 100% of patients sera were positive against Sicilian virus, however only 33% of these samples were positive against Naples virus.

In Mehran district (Ilam province) 9 sera was positive against Sicilian virus, on the other hand 60% of patients sera were positive against Sicilian virus, however only 46% of these samples (7 sera) were positive against Naples virus.

These results indicated the situation of disease in western boarder regions of Iran.

Other study also confirmed the distribution of disease in many part of country which was reported by other researchers (8,9). In addition for this, the disease reported from other countries as well (5,8,9,16).

In addition the findings reveals the disease might be distributed in the Middle East, Persian Gulf regions, west of Europe and Africa (9).

It can be concluded that many of suspected patients were positive either as Sicilian or Naples virus. Sometimes a few patients were positive against both viruses which mentioned earlier. Therefore, precautions must be taken for people who are travelling to boarders.

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