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Minireview on Sand Fly Fever

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Abstract: Little is known about sand fly fever with manifestations such as severe fever, headache and photophobia. The disease is endemic in many Middle East countries and it is supposed many patients are referred to Medical center, without correct diagnosis and perhaps treatment. This mini-review article describes the situation of diseases at the present time which may be useful for interested scientists.

Key words: Sand fly fever, disease, Middle East, Persian Gulf

INTRODUCTION

Sand fly fever that is also called three day fever, papatasi fever and phlebotomous fever (Mehrabi Tavana *et al.*, 1999).

It is one of the arbovirus diseases which can be transmitted via sand fly bite (Cross and Hyams, 1996; Cross *et al.*, 1996; Tesh and Chaniotis, 1975) and transovarial transmission of virus within phlebotomus species. Sand fly fever virus can be classified as a bunyaviridae family viruses (Mehrabi Tavana, 2001). 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 (Mehrabi Tavana, 2001, Crance *et al.*, 1997). Naples 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 (Mehrabi Tavana, 2001). It has to be said that, many rodents could be acted as a reservoir of the disease (Mehrabi Tavana, 2001). Based on many documents, it is believed that, the disease caused many problems in Persian Gulf regions during World War II (Mehrabi Tavana, 2001). Iran the disease well described by Javadian (1977), Saidi *et al.* (1977) Tesh *et al.* (1976 and 1977). Mehrabi Tavana (1999) and Mehrabi Tavana (2001). Possibly the life cycle of disease is circulated among rodents, domestic animal and human and it may be *P. papatasi* is the main Vector of Sand fly fever. Perhaps other species may be involved. The Fig. 1 shows the life cycle of arboviruses including sand fly fever. Serological test has been used for identification of virus So far (Mehrabi Tavana *et al.*, 1999). No molecular test has been applied for investigation of virus so far.

DISCUSSION

Still little is known regarding sand fly fever in particular its epidemiological clinical diagnosis and control aspects of infection. It has to be said the disease causes problems in World War I and II. Since that the disease was seen in different areas in particular in Middle East, Persian Gulf and part of Europe (Mehrabi Tavana *et al.*, 1999; Mehrabi Tavana, 2001; Bryan *et al.*, 1996; Sánchez-Seco and Navarro, 2005; Verani *et al.*, 1995). Different serotypes of viruses have been described in the last decades. However in spite of presence of Vector *P. papatasi* in different continents no report has been published yet from different parts of the world. It is supposed the disease may be present in other continents too. Non immune persons such as travelers are highly susceptible to get the infection

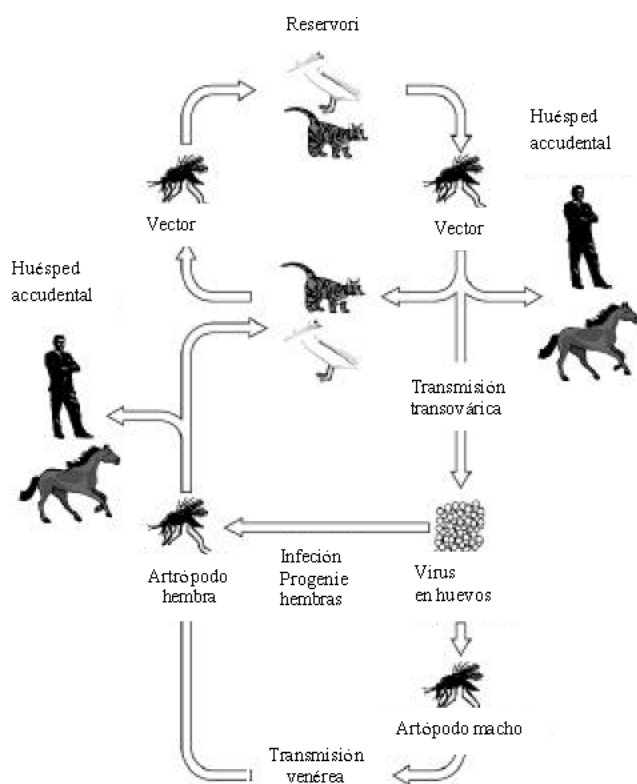


Fig 1: Life cycle of arboviruses (Sánchez-Seco and Navarro, 2005)

(Mehrabani Tavana, 2001). Because of no vaccine available to prevent the infection. Therefore, precaution measures must be taken for people who are traveling to tropical or semi tropical countries (Mehrabani Tavana *et al.*, 1999; Mehrabani Tavana, 2001; Bryan *et al.*, 1996; Sánchez-Seco and Navarro, 2005).

REFERENCES

- Bryan, J.P. and M. Iqbal *et al.*, 1996. Prevalence of sand fly fever, West Nile, Crimean-Congo hemorrhagic fever and leptospirosis antibodies in Pakistani military personnel. *Mil. Med.*, 161: 149-153.
- Crance, J.M. and D. Gratier *et al.*, 1997. Inhibition of sandfly fever Sicilian virus (Phlebovirus) replication *in vitro* by antiviral compounds. *Res. Virol.*, 148: 353-365.
- Cross, E.R. and K.C. Hyams, 1996. The potential effect of global warming on the geographic and seasonal distribution of *Phlebotomus papatasi* in southwest Asia. *Environ. Health Perspect.*, 104: 724-727.
- Cross, E.R. and W.W. Newcomb *et al.*, 1996. Use of weather data and remote sensing to predict the geographic and seasonal distribution of *Phlebotomus papatasi* in Southwest Asia. *Am. J. Trop. Med. Hyg.*, 54: 530-536.
- Javadian, E. and R. Tesh *et al.*, 1977. Studies on the epidemiology of sandfly fever in Iran. III. Host-feeding patterns of *Phlebotomus papatasi* in an endemic area of disease. *Am. J. Trop. Med. Hyg.*, 54: 530-536.

- Mehrabi Tavana, A. and E. Javadian *et al.*, 1999. The seroepidemiological studies of sand fly fever during the imposed war, 1980-88. *Hakim Res. J.* (In Persian), 1: 14-17.
- Mehrabi Tavana, A., 2001. The seroepidemiological studies of sand fly fever in Iran during imposed war. *Iran. J. Publ. Health*, 30: 145-146.
- Saidi, S. and R. Tesh *et al.*, 1997. Studies on the epidemiology of sand fly fever in Iran. II: The Prevalence of human and animal infection with five phlebotomus fever virus serotypes in Isfahan province. *Am. Soc. Trop. Med. Hyg.*, 26: 288-293.
- Sánchez-Seco, M.P. and J.M. Navarro, 2005. Infections due to Toscana virus, West Nile virus and other arboviruses of interest in Europe *Martes*, 23: 560-568.
- Tesh, R.B. and B.N. Chaniotis, 1975. Transovarial transmission of viruses by *Phlebotomine sandflies*. *Ann. N.Y. Acad. Sci.*, 266: 125-134.
- Tesh, R. and S. Saidi *et al.*, 1977. Studies on the epidemiology of sandfly fever in Iran. I. Virus isolates obtained from Phlebotomus. *Am. J. Trop. Med. Hyg.*, 26: 282-287.
- Tesh, R. and S. Saidi *et al.*, 1976. The distribution and prevalence of human infection with phlebotomus fever group viruses in Iran. *Iran. J. Publ. Hlth.*, 5: 1.
- Verani, P. and M.G. Ciufolini *et al.*, 1995. Arbovirus surveillance in Italy. *Parassitologia*, 37: 105-108.