Leptospirosis

Detection of leptospirosis in India

J M Vinetz

Leptospirosis is a zoonotic disease of global significance. In recent years, clinicians and epidemiologists have given increasing attention to this disease, with particular focus on two features: its epidemic potential; and severe manifestations, particularly pulmonary hemorrhage. However, in leptospirosis endemic regions, one quarter of patients (or more) presenting with simple fever have serological results suggesting the diagnosis of acute leptospirosis. Severe leptospirosis seems to be the tip of the iceberg of leptospirofilarial infection: most people infected by Leptospira seem to have either simple, undifferentiated fever (fever without focus) or subclinical illness. Fever is a cardinal manifestation of illness and is a common clinical complaint. In industrialised countries, an undifferentiated febrile illness is often referred to as a “viral syndrome” or a “flu-like illness”, with the expectation that it will resolve itself. In the developing world, depending on locale, an undifferentiated fever may be called “dengue” or “malaria”, or depending on the verve of the investigator, a “rickettsial” or “ehrlichial” illness, etc. Regardless of geographic context, however, most often the diagnosis of an undifferentiated fever is on the basis of clinical observation without precise documentation by laboratory, and treatment is symptomatic or specific antimicrobial therapy provided empirically. I would suggest that the term “flu-like illness” is a misnomer and should simply be abandoned as dangerous and the result of fuzzy thinking.

What really is meant by “flu-like illness”? To this author, an influenza-like illness is characterised by the onset of general symptoms such as fever, headache, myalgia, arthralgia, accompanied by upper or lower respiratory symptoms such as sore throat, nasal congestion, and cough. While influenza has a pro-drome indistinguishable from many other acute infections, its archetypal manifestations are respiratory. Therefore, regardless of geographic location, to describe fever accompanied by general complaints, without respiratory symptoms, as “flu-like” or “viral syndrome” is fraught with hazard and should prompt consideration of other diagnostic possibilities. The underlying meaning of “flu-like illness” is profoundly important, however, particularly today in the era of bioterrorism (for example, pulmonary anthrax which starts out as an undifferentiated fever, later progressing to pulmonary manifestations) and the severe acute respiratory syndrome (SARS). One can only judge with apprehension the next influenza season when many true “flu-like” syndromes present to hospital!

So it was the diagnostic importance of undifferentiated fever that motivated Karande et al to study leptospirosis in Mumbai, as reported in this issue of the Archives. The authors took advantage of an outbreak of febrile illness that occurred in the context of seasonal flooding in Mumbai. As is typical with outbreaks of undifferentiated fever occurring in an epidemic setting, the authors make specific recommendations about the importance of working up patients who come into contact with flood waters, and that children ought to avoid playing in and walking through flood waters. More important for public health, there needs to be a general awareness and deeper understanding of the concept of undifferentiated febrile illness. Astute clinicians and well equipped clinical laboratories need to be vigilant in observing and explaining outbreaks of undifferentiated febrile illness. Only in this way can we avoid the intellectual abyss of dismissing such clinical presentations as only “viral” or “flu-like” illnesses, and delay the recognition of important epidemics of known and newly emerging infectious diseases.

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Correspondence to: Associate Professor M Vinetz, Division of Infectious Diseases, Department of Medicine, University of California, San Diego School of Medicine, 9500 Gilman Drive, Mail Code 0640, La Jolla, CA 92039-0640, USA; jvinetz@ucsd.edu

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