Coinfections in Tropical Fevers: An Emerging Phenomenon

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Sir,

I read the update article “Tropical coinfections: clinical implications” by Yeolekar ME with great interest. I congratulate the author for the nicely written update and the journal for timely publishing the article. In tropical countries like India, acute undifferentiated fevers particularly in monsoons and post monsoon period pose a serious challenge in terms of morbidity, mortality and economic burden. Coinfections as a cause of acute undifferentiated fevers are an emerging phenomenon in tropical countries. The update article has focussed on coinfections of malaria, dengue and chikungunya, all three being mosquito vector borne infections. The coinfections are not limited to these three diseases only. The article has not mentioned scrub typhus and leptospirosis related coinfections. Scrub typhus, malaria, dengue fever and leptospirosis coinfections have been reported from Himachal Pradesh, Uttarakhand, central India, Puducherry and also other parts of India.

Serological and clinical evidence of Japanese encephalitis and dengue fever coinfection has also been observed.

Rickettsial diseases have been increasingly recognized in most regions of India. Scrub typhus is the commonest occurring rickettsial infection in India. Leptospirosis is a seasonal disease and outbreaks coincide with that of dengue fever, chikungunya fever, malaria and scrub typhus. The diagnosis of scrub typhus and leptospirosis is based on imported commercially available IgM enzyme linked immunosorbant assay (ELISA), which use cutoffs derived from low endemicity areas. Majority of scrub typhus and leptospirosis coinfection diagnosis are based on clinical features and IgM ELISA. Are these single point serology based tests for leptospirosis and scrub typhus giving fallacious results due to cross reactivity while reporting coinfections? Is it the limitation of single point of time serological tests used for the diagnosis? Data on cross reactivity of various serological tests among these infections is limited. Polymerase chain reaction (PCR) based molecular assays confirmed scrub typhus and leptospirosis dual infection in only one patient among ten IgM ELISA positive cases.

An important question arises now? In daily clinical practice the possibility of cross reactivity and genuine serological dual positivity can’t be ruled out without molecular diagnostic tests. It is rational to treat with drugs which cover both the diseases. Coinfections can be a serious public health issue in tropical countries. The coinfections scenarios need to be reported more often. They should be more common in areas with high endemicity for diseases causing acute undifferentiated febrile illness. Studies should be designed for molecular confirmation and ruling out cross reactivity. It is also necessary to develop a robust local population based seroprevalence data based on the serological tests.

References


