

Encephalitis Outbreaks in Muzaffarpur: Five Blind Men Describing an Elephant!

The President, Indian Academy of Pediatrics (IAP), needs to be complimented for showing his concerns for the recurring outbreaks of acute encephalitis syndrome (AES) in different parts of the country, particularly in Muzaffarpur, Bihar [1]. He has rightly highlighted the role of pediatricians in disease surveillance through the Academy's portal, *IDSurv*.

However, the Academy is capable of going much beyond merely reporting of the cases. We have the expertise to lead investigations and offer solutions regarding diagnosis and management of these 'mystery illnesses'. Already, few IAP members are involved in the investigations of the ongoing recurring outbreaks in Muzaffarpur in their own individual capacity. The Infectious Disease Chapter of IAP should come forward and contribute to ongoing investigations. It can organize brain storming sessions on the problem involving all the stakeholders, including State and Central agencies. The local pediatricians, usually the IAP members, are keys to the success of this endeavor. In fact, the Government of India is short of technical advice on many issues pertaining to outbreak investigations and usually depends on multiple agencies – some of their own and some from outsiders – for solving the mystery and instituting preventive measures, which ultimately do not go beyond recommending mass vaccination against Japanese encephalitis in affected areas [2].

Outbreak investigation in India is in a dismal state. Once an outbreak is spotted, usually by the media, the regional and central investigating teams arrive, carry out field survey, collect few biological samples, perform virological investigations, and if no organism is identified, label the outbreak to be caused by an unidentified viral agent [3]. The problem is each team starts with a fixed mindset and looks for some infective pathology behind every outbreak. There is lack of coordination and synchronization of efforts, and ultimately they waste their energy either duplicating the efforts of others or pursuing a different approach unmindful of other's accomplishment. Individual experts start investigating these outbreaks according to their own areas of interests. For example, in an outbreak of AES amongst children in Andhra Pradesh, India in 2003, the

virology group concluded it to be an outbreak of acute encephalitis caused by Chandipura virus [4] and the neurology team claimed the outbreak was caused by a neurovascular stroke called as "epidemic brain attack", not by any encephalitis [5]. Similarly, in Muzaffarpur outbreaks, one group claimed it to be caused by heat stroke, and another hinted towards a toxin contained in the *litchi*, a locally grown fruit [1]. The current scenario is bit murky and resembles like five blind people describing an elephant.

The need of the hour is to adopt a fresh systematic approach with an open mindset. Every effort must be made to characterize the clinical entity, whether it is an encephalopathy, encephalitis or a multisystem disease. Thorough clinical, biochemical, histopathological and microbiological investigations, and autopsies must be performed to reach at a correct clinico-pathological diagnosis. Second stage of investigations should consist of proper epidemiological investigations to identify any risk factor. Based on these investigations, further studies that may include detailed toxicology can also be planned. The team should include epidemiologists, pathologists, neurologists, toxicology experts, public health experts and pediatricians. They should report to one designated authority spearheading all these teams. It is definitely possible to crack the mystery behind these recurring outbreaks and put an end to the prolonged ordeal of innocent children.

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