Japanese Encephalitis (JE) as the name suggests is a form of encephalitis that was first reported from Japan. However it is well known in the entire south East Asia. Countries that have known reports of JE include North and south Korea, eastern horn of Russia, Japan, entire eastern belt of China including mainland China, Taiwan, Singapore, Philippines, Indonesia, Thailand, Malaysia, Papua New Guinea, Singapore, Hong Kong, Vietnam, Cambodia, Laos, Burma, Sri Lanka, and Bangladesh. Nepal as well as most of the India is considered endemic belt for Japanese encephalitis 1.

Japanese encephalitis is a viral disease caused by a flavivirus. It is transmitted by Culex species of mosquitoes. Pigs and wild birds are the reservoir of this virus. During the months of summer, between April and October, the temperature is most suitable for the breeding of mosquitoes. So most of the infections occur during this period.

Most of the patients are asymptomatic. Only 1 in 250 patients develops a disease called encephalitis. Young children below the age of 2 years are the main victims but it can occur in any age group if not vaccinated or not immune. Patients develop fever, headache, myalgia, refusal of feeding, vomiting, impairment of consciousness, drowsiness, convulsion and coma.

Most commonly children have parkinsonian type of signs like cogwheel rigidity, tremor, mask facies, rigidity and choreathetoid movements. A poliomyelitis like illness with hypotonia all over is also well known. Less severe syndrome includes an aseptic type of meningitis and myalgia syndromes. Mortality is 20-30%. Those who survive also have different types of neurodeficits, behavioral deficits and psychiatric deficits (20-50%). Laboratory findings include moderate leukocytosis, mild anemia, and hypernatremia, Cerebrospinal fluid (CSF) typically has a mild to moderate pleocytosis with a lymphocytic predominance, slightly elevated protein, and normal ratio of CSF to plasma glucose.
There is no specific treatment for this disease. Supportive treatment includes maintenance of fluid and electrolyte balance, Gastric tube feeding, protection of airway, oxygen, and if required ventilator support.

This is a vaccine preventable disease. A vaccine is available and CDC recommends a vaccine to all Western and European travelers if 1) they are going to stay for a long time in endemic areas, 2) if they are planning to visit rural areas or 3) if they visit these areas during active epidemics. Two shots of vaccines are given with a space of 28 days and that must be completed 2 weeks before travelling to the endemic area. Vaccination is also recommended for local at-risk population. Children are usually given 2 shots of vaccine at 9 months and 18 months of age. Adults in endemic areas are usually immune because they get infected in childhood.

India was using a Chinese manufactured vaccine, but lately a locally manufacture vaccine is also available. However the main thrust of the government must be on prevention and eradication of vector borne diseases, including Malaria, Chikungunya, Dengue Fever and JE by effective public health measures to control mosquito breeding and thereby prevent transmission from pigs or wild animals to humans.

In India, JE has been reported from entire India with the exception of Jammu and Kashmir, Himachal Pradesh, Punjab, Rajasthan in the north and Sikkim, Meghalaya, Gujarat, Dadra Daman and Diu and Lakshadweep. Most of the human cases are reported between May to November but in southern states, it may continue to be year round.

In Uttar Pradesh, cases have been reported in clusters especially from eastern UP that includes districts of Gorakhpur and adjoining areas. The Gorakhpur district of Uttar Pradesh, which shares a border with Nepal and Bihar, has been experiencing periodic outbreaks of JE since 1978. A very serious and prolonged epidemic has occurred in 2005 and that was extensively studied by Parida et al from BRD Medical College, Gorakhpur, India. They studied 5,737 persons in 7 districts of eastern Uttar Pradesh, out of which 1,344 persons died (23.43%), who were admitted to B.R.D. Medical College, Gorakhpur2.

I have written this editorial mainly in the backdrop of a recent heavy death toll of 80 children in Gorakhpur, Uttar Pradesh, that were attributed to JE. Following this tragic episode, there was a Twitter storm demanding resignation of UP chief minister and social media was abuzz with the negligence of doctors, lack of infrastructure and changing priorities of the state and the central government. There has also been a lot of hue and cry in the national press. I will quote one of the paragraphs that had appeared in a national newspaper, Live MINT, August 19, 2017:

“Newborn babies don’t suffer from acute encephalitis syndrome (AES). The list of deceased clearly shows that only five children died of AES and one due to hepatic encephalopathy. As per the list, all other babies were newborns who were apparently in need of expert emergency care services. Such cases are very critical and need continuous supply of ventilation,” said Dinesh Kapil, senior consultant, pediatrics, at Red Cross Hospital, New Delhi. Kapil was formerly at All India Institute of Medical Sciences (AIIMS).

Uttar Pradesh has the worst infant mortality rate in the country of 78 (per 1,000 live births) according to the National Family Health Survey- IV (2015-16). The national average is 41. In light of the deaths at BRD Medical College, child health specialists have pointed to the importance of strengthening emergency medical services in the state”.

We must all understand that healthcare facilities are very poor in India and that includes in the state of Jammu and Kashmir. The Government spends less on health of the people. On top of this the healthcare personnel have to work in harsh and unfavorable circumstances. Many times they face the wrath of the suffering patients and their relatives. We as medical professionals must continue to press the government agencies to give top priority to health of the population. We also must take a lead to establish emergency care units in all big and
small hospitals. The situation in Jammu and Kashmir seems to be as dismal as in Gorakhpur.

References:

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