Acute encephalopathy syndrome in Bangalore


Sixty four cases of acute encephalopathy syndrome admitted to the Vani Vilas Children's Hospital, Bangalore, during the period April 1973 through January 1974 were studied. The median age was 4.84 years. There was no difference in the sex ratio. Maximum number of cases were admitted during the winter months. Cases tended to cluster in certain congested localities of the city among the lower socio-economic strata. 53 (89.8%) of the 59 patients, who could be followed up to the end, expired. The clinical and biochemical findings in many patients were suggestive of Reye's syndrome. Though 6 strains of coxsackie viruses were isolated from 160 specimens processed for virus isolation, they could not be incriminated as etiological agents in majority of patients.

Key words: Acute encephalopathy syndrome; Reye's syndrome; coxsackie viruses.

The syndrome of acute encephalopathy, characterised by fever of sudden onset, convulsions and sensory disturbances of varying degrees, with normal cerebrospinal fluid (CSF) values and ending fatally most of the time is an important pediatric problem in India. Epidemics of this encephalitis like syndrome have been reported from Bihar, Delhi, Uttar Pradesh and Maharashtra. Sporadic cases of acute encephalopathy syndrome conforming to the description of Reye's syndrome or encephalopathy with fatty degeneration of the viscera have been reported from Vellore, Nagari, Chandigarh, Delhi, Bombay and Bangalore. Many children with the features of acute encephalopathy syndrome used to be admitted to the Vani Vilas Children's Hospital, Bangalore for many years. In 1973, a study was undertaken to define the clinical and biochemical features, to collect preliminary epidemiological data and to isolate possible virus/viruses responsible for the disease. The results of these studies are presented in this paper.

Material and Methods

During the period, 2nd April 1973 through 12th January 1974, 64 children admitted with a clinical picture of "Encephalitis" were studied. Clinical features were recorded in all these children. Blood sugar, blood urea, serum glutamic pyruvic transaminase (SGPT), CSF analysis, total WBC counts and urine analysis for ketone bodies were done by standard methods wherever possible.
Specimens of throat swab, rectal swab, CSF, liver and brain tissues obtained on post-mortem biopsy were processed and inoculated intracerebrally, intra peritoneally and subcutaneously into suckling albino mice and in a few instances into bonnet macaque primary kidney cell cultures by usual procedures. The isolates obtained were identified by the neutralization test using type specific antisera.

**Results**

*Age, sex and epidemiological observations:* Among the 64 cases studied 32 were males and 32 were females. Their age distribution is shown in Fig.1. Children from 10 months to 10 years were affected with a median age of 4.84 years. Though cases were admitted throughout the study, maximum number of cases were observed in the months of October, November and December. Multiple cases came from certain areas of the city (Fig.2). Twenty four (36.5%) of the patients came from Goripalya, Kempapura Agrahara, Magadi Road and Mysore Road which are adjoining areas. Hanumantnagar accounted for 9 (12.5%), Jayanagar for 7 (10.9%) and Banashankari for 4 (6.25%) cases. Five (7.8%) cases came from rural areas and the remaining 16 (25%) from different parts of the Bangalore city. In general the affected children belonged to the lower socio-economic strata. On an

![Graph showing age distribution of cases of encephalopathy syndrome](image-url)