itching that may last for hours or days [3].

Reactions to stings maybe classified as local and systemic. Fire-ant sting resulting in anaphylaxis has been estimated to occur in as many as 0.6-1% of stings [3]. Incidence of anaphylaxis can be as high as 10% on subsequent stings [5]. Anaphylaxis may occur hours after the sting. Other adverse neurological reactions like seizures and rhabdomyolysis with renal failure have also been reported [6,7].

Fire ant venom is 95% alkaloid with a small aqueous fraction that contains soluble proteins. Ninety-nine percent of the alkaloid component of fire-ant venom is made up of 2,6,di-substituted piperidines that have hemolytic, antibacterial, insecticidal, and cytotoxic properties. Venom alkaloids do not generate IgE antibody responses and thus do not appear to be responsible for allergic reactions. The proteins in fire ant venom which makeup only about 0.1% of the venom by the weight induce IgE response in persons allergic to fire ant stings [3].

In India, many species of ants exist. The present bite was confirmed to be red fire ant (*Solenopsis geminata* (*fabricius*)) by collecting them from the site of accident and verification by entomologist. Red fire ant is present in most of the kitchen gardens and farm land all over India. They are bound to migrate to residential and work places causing numerous stinging accidents. It is interesting that being the native of tropical countries, including India, no reports are available in literatures.

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Neurodevelopmental Outcome of Neonates with Vertically Transmitted Chikungunya Fever with Encephalopathy

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Neurodevelopmental follow-up of neonates with vertically transmitted Chikungunya fever has been infrequently reported. We herein report neurodevelopment follow up of two such babies at 3 year of age.

Key words: *Chikungunya, Newborn, Neurodevelopment*

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Although there are few anecdotal reports on the vertical transmission of the virus from the mother to the newborn [1-3], there are no reports on follow up of these children. We describe the follow up of two such newborns with encephalopathy at 3years.

CASE REPORT

Case 1: A 5 day old male, born at term by caesarian section with birth weight of 3.5 kg and normal apgar scores was referred with altered sensorium and convulsive apnea. On examination, he had features of encephalopathy. Mother had history of fever with joint pain few days prior to delivery. Initial work up for seizures was normal (blood glucose, serum electrolytes, CSF examination and CT scan). Septicemia was ruled out by relevant investigations (complete blood count, peripheral smear, CSF examination and blood culture

sensitivity). He had hypoproteinemia and lymphedema during the hospital stay. At 1week of life, he was noticed to have hyperpigmentation over nose, face and groin. In view of maternal fever and joint pain and endemicity of the disease, baby's and maternal blood was sent for RT PCR for chikungunya, which was positive. Hence, a final diagnosis of vertical transmission of chikungunya was considered. The baby was treated symptomatically and was discharged on direct breast feeding. The hyperpigmentation lasted two months and gradually settled.

During his initial follow up, he was found to have hypertonia for which he was advised early intervention and stimulation. He subsequently developed spastic diplegia. He also has a seizure disorder starting at 11months for which he is on 2 anticonvulsants, CT scan and EEG done at one and a half years were normal. His IQ assessment done by the Binet Kamat test of intelligence showed a score of 62 and his category of IQ was borderline. His social intelligence was age appropriate. His meaningful memory and visuo-motor skills were adequate whereas his language, nonmeaningful memory, conceptual thinking, nonverbal and numerical reasoning were inadequate. He was also found to be hyperactive for which he is on appropriate intervention.

Case 2: A 5-day-old female baby born at term with birth weight of 2.8 kg to HBsAg positive mother by caesarian section was referred with repeated convulsive apnea and lethargy since 2 days. Mother had history of high grade fever with joint pain just prior to delivery. On admission the baby had features of encephalopathy. Initial workup for seizures was normal (blood glucose and electrolytes, CSF, CT scan and EEG). Work up for septicemia was also negative. Baby was found to have hypoproteinemia and lymphedema. Baby had to be ventilated on day 4 of admission in view of repeated convulsive apnea and poor respiratory efforts. Supportive treatment was given baby and was discharged on full feeds. Babies and maternal serum for RT PCR for chikungunya positive. On day 10, baby was noticed to have perioral, limb and abdominal hyperpigmentation. On follow up, she was found to be hypotonic for which she was started on early intervention and stimulation. At 6-months of age, she was found to have poor visual regard. VEP was done and was found to be abnormal with poor NPN complexes suggestive of primary optic atrophy. BAER study done at one year of age was normal. She is presently 3 yrs and has hypotonic cerebral palsy with mental retardation. Her IQ assessment done by Binet Kamat test of Intelligence gave a score of 58 and the category of IQ was poor. Her social intelligence, visuo-motor skills, numerical reasoning and language skills were poor. Her conceptual thinking, non verbal reasoning and meaningful memory were also inadequate whereas her non meaningful memory was adequate.

DISCUSSION

We found that both the newborns that developed chikungunya encephalopathy had persistent disabilities which included cerebral palsy, visual impairment, seizure disorder and behavioral problems. Chikungunya virus infection was first reported to affect the nervous system in the 1960s [4]. The neurotropism of this virus has not been completely studied. The ability of the virus to invade and replicate in the brain parenchyma has not been consistently proven by animal studies. Experimental studies have shown that the virus disseminates to the central nervous system in severe cases, where it specifically targets the choroids plexus and the leptomeninges [5]. In a study done in adults in Nagpur district of Maharashtra, it was found that 16.3% had neurological complications which included encephalitis, myelopathy, peripheral neuropathy, myeloneuropathy and myopathy. RT-PCR and real time PCR was positive in the CSF in 16% and 18%, respectively [6]. Another report [1] from the Reunion Island showed that 4 out of the 9 neonates with encephalopathy developed persistent disabilities, which included cerebral palsy with blindness and ataxia in one and three had ocular and behavioral or postural deficiencies. However, the outcome of the neurological symptoms was generally good in adults [7].

In conclusion, encephalopathy appears to be the most common clinical presentation of the disease during mother to child transmission and can be associated with long term disability. Hence, newborns with vertical transmission of chikungunya need a close follow up for abnormal neurodevelopmental outcome.

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Pemphigus Foliaceus

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Pemphigus foliaceus is an autoimmune blistering disease, which affects the skin but rarely affects the mucosae. There are two variants of pemphigus foliaceus : endemic and sporadic. Erythroderma due to pemphigus foliaceus is unusual and its occurrence in a child is very rare. We describe a case of erythrodermic pemphigus foliaceus in a 12- year- old boy.

Key words: *Foliaceus, Iran, Pemphigus.*

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Pemphigus foliaceus is an autoimmune blistering disease, which affects the skin but rarely affects the mucosae [1]. Erythroderma due to pemphigus foliaceus is unusual and its occurrence in a child is very rare . We describe this entity in a 12- year- old boy.

CASE REPORT

A 12-year-old boy presented to us with widespread skin lesions of 4 months duration. Erythematous and crusted lesions first appeared on his scalp and within a few days it became generalized and then erythrodermic (***Fig.* 1**). Scaling and exudation were also seen. Different antibiotics and topical steroids were prescribed without significant improvement. The child also complained of hearing loss since one month. On physical examination, erythroderma with severe scaling and malodorous discharge was seen. There was mild palmoplantar keratoderma and scales covered the entire scalp. There were two small vesicles along the ulnar side of right palm. The mucosal surfaces and nails were normal. He had two small non tender submandibular lymph nodes. External auditory canal was filled with scales and crusts. Pinna was tender on palpation. After removing the crusts, external auditory canal was found to be red and swollen. Routine laboratory tests were normal except erythrocyte sedimentation rate which was elevated (52mm/hr). *Giardia* cyst was found in stool exam. KOH examination from the scalp scales was negative for dermatophytes. Lesional and perilesional biopsy were taken with impression of pemphigus foliaceus, eczema, psoriasis, and erythroderma due to dermatophytosis.

The microscopic examination showed a subcorneal cleft in the granular layer. A few acantholytic cells were also seen. Mixed inflammatory infiltrate with lymphocytic predominance was seen in dermis. Direct immunofluorescence performed on prelesional specimen showed deposits of C3 and IgG in the upper part of the epidermis compatible with pemphigus foliaceus. Oral prednisolone 30 mg/d and azathioprine 50 mg/d were started. Proper treatment was instituted for external otitis and *Giardia* cyst. Prednisolone was increased to 50 mg/d due to poor response to treatment. A few days later the lesions began to improve. The child was discharged after 45 days of admission. Follow-up was not possible.

DISCUSSION

Pemphigus foliaceus is an autoimmune disease that is characterized by the presence of autoantibodies against the cell surface of keratinocytes, which leads to destruction of epidermal cell junctions. Blistering in this group of autoimmune disease occurs in upper parts of the epidermis, either in the granular layer or just beneath the stratum corneum. Pemphigus foliaceus comprises of two major categories: (*i*) sporadic form; and (*ii*) endemic pemphigus foliaceus also known as fogo selvagem (wild fire) [1-4].

Fogo selvagem primarily affects children in contrast to the sporadic form of pemphigus foliaceus which is