

## Anaphylaxis due to Red Fire Ant Bite

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Ant allergy is a rare problem and most published reports are from outside India. We report a toddler who suffered from severe anaphylaxis reaction due to bite of Red fire ant (*Solenopsis geminata*).

**Key words:** Anaphylaxis, Bite, Child, India.

**A**nt allergy is a rare clinical problem that ranges from local to systemic reaction and life threatening anaphylaxis [1]. Most of the reports are from North America, Australia, Europe [2] and Saudi Arabia. There are no published reports from India. We report severe anaphylactic reaction due to bite of Red fire ant (*Solenopsis Geminata* (*Fabricius*)) in a child.

### CASE REPORT

A one and half year old male child apparently in good health and no previous history of allergy to ants was playing and suddenly started crying. Parents noticed 10-20 small red ants on his all four limbs. They removed all the ants and took him home. After 15 min they found him to be drowsy, not responding to oral commands and his body being cold. When seen in the out patient, his body was cold and clammy; he was drowsy and was not responding to oral commands. Pulses were feeble, and heart rate was 120 per minute, respiratory and per abdomen examination being normal. Nervous system examination revealed pupils being normal and no neurological deficits. A clinical diagnosis of anaphylaxis was made. The blood pressure was 60/40 mmHg; oxygen saturation was 84% in room air and heart rate of 120 beats per minute. Immediately he was started on oxygen by mask, intravenous fluids and an intravenous dose of adrenaline was given, followed by intravenous hydrocortisone. His blood pressure did not improve after 10 minutes of hydrocortisone, so a repeat dose of hydrocortisone and antihistaminic was given, after one hour of intravenous fluids and oxygen his blood pressure improved, oxygen saturation came to normal at room air and he started responding to oral commands. After 8 hours of admission he developed multiple pustules (**Fig.1**) on both upper and lower limbs. He improved clinically and was discharged after 24 hours. The pustules gradually turned into scab and disappeared after 4 days. His hemogram and urine examination were essentially normal.

### DISCUSSION

Fire ant refers to members of genus *Solenopsis* namely *S. invicta*, *S. richteri* and *S. geminata*. The red (*Solenopsis invicta*) and black (*Solenopsis richteri*) imported fire ants are a common cause of sting allergy in US. Between 30-60% of the population in the urban areas infested by imported fire ants are stung every year [3]. Six ant sting related fatalities were identified in Australia in 2002 [4]. Fire ants are aggressive and they sting when disturbed [5]. Stinging is more common among children and on legs and they occur most frequently during summer [3]. The ant attaches itself to the skin with powerful mandible, arches its body and injects 0.04-0.11  $\mu$ L of venom through a stinger located in the distal abdomen (**Fig.1**) [3]. If undisturbed, the ant will rotate its body about its mandible to sting repeatedly. The venom induces an immediate severe burning sensation at the site of the sting, followed by severe



FIG.1 Multiple pustules on the hand (Inset – Red fire ant in the position of stinging).

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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**A**lthough 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