

## Case Report

# Death due to Antbite - A Case Report

Rodrigues EJ,\* Pillay VV\*\*

### ABSTRACT

A case is reported of a young child being bitten by multiple fire ants, and succumbing. This is one of the rarest cases reported in literature.

**Key Words:** Fire ant, Antbite

### Introduction

A 28 year-old unmarried female had illicit sexual intercourse with her cousin, and became pregnant. She belonged to lower socio-economical status, and no one in her family knew about her pregnancy including her mother. During the last stages of pregnancy, she proceeded to a hospital along with her mother in an autorickshaw, as she was feeling unwell. On the way, she stopped the vehicle on the pretext of attending to a call of nature, and delivered a baby in an isolated place, abandoned the baby, and continued on her way to the hospital as if nothing had happened. At the hospital, the gynaecologist noticed the remnants of a placenta, and enquired as to the baby.

Meanwhile the delivered baby was bitten by multiple ants and started crying bitterly. This was heard by a nearby watchman who lifted the baby and took it to the local government hospital. The baby was attended to by paediatricians, and after recovering from the effects of the antbites, was transferred to an orphanage.

The mother of the baby was sent to the State Forensic Medicine department, where examination confirmed signs

of recent delivery. The mother was subsequently tried for abandonment of child.

At the orphanage where the baby was sent, one morning after feeding, the attendant placed the child on the floor and went elsewhere to do other work (washing clothes). Meanwhile, the child got bitten by multiple ants as it lay on the floor, and by the time the attendant realized this and rushed to the hospital, it was too late. The child was declared dead on arrival. A police case was registered, and the body of the child was sent for a medicolegal autopsy to find out the exact cause of death.

### Autopsy Findings

On examination, the deceased child appeared well nourished with the following external injuries. There were numerous superficial abrasions all over, consistent with antbites. The main lesions were noticed over the mucosal surface of both lips, left side of nose, around the eyes, angle of mouth, and the genitals. The injuries were more on the left side of the body, and looked like multiple maculopapular erythematous skin rash, with discrete lesions on the left side of the face, eyes, angle of the mouth, cheek, ear, upper arm, forearm, palm, and dorsum of the hand. Bites were also evident over the left side of chest, abdomen, buttock, and the borders of the soles of the feet.

The rest of the external and internal examination was essentially normal, except for congestion of many of the viscera.

\*(*Author for correspondence*), Associate Professor, Dept of Forensic Medicine, Goa Medical College, Goa, India.

\*\*Chief, Poison Control Centre, Amrita Institute of Medical Sciences, Cochin, India

### Histopathological Findings

1. Skin - congestion of blood vessels with perivascular inflammatory infiltrates
2. Lung - mild congestion
3. Liver - moderate dilatation and congestion of sinusoids
4. Kidneys - mild congestion
5. Heart - no significant pathology
6. Spleen - Congestion

### Discussion

The ants present at the second scene described in this case were identified as tropical fire ants by an expert in Hymenoptera. These are fairly large, reddish ants that are quite commonly seen around the world (Fig 1). The zoological name of the fire ant is *Solenopsis geminata*. These ants are most abundant in open sunny areas. They are common in agricultural areas and around human settlements. In the lowlands the fire ant is found not only in the open but may also penetrate into forest underbrush, albeit at lower density. At higher elevations, it is restricted to open areas and does not extend into closed-canopy forest.



Fig 1 Tropical Fire Ant

*Solenopsis geminata* colonies are large, with tens to hundreds of thousands of workers. Nests are in the soil, usually in the form of a large exposed soil mound. Galleries extend out into the surrounding soil, surfacing at foraging zones at a distance from the nest. Most foraging is at the soil surface, but I have seen fire ants foraging several meters up on tree trunks or treefalls when there are abundant epiphytes and epiphytic soil. Workers form galleries extending from the ground up through the epiphytic soil. Workers have powerful stings and are the bane of children running barefoot in the grass.

Fire ants clamp onto their target with powerful jaws and sting it repeatedly. Each sting injects venom, which causes a burning sensation and itching blisters that can become infected. Red fire ants attack and kill newborn domestic animals, pets, and wildlife and destroy seedling corn, soybeans, and other crops. They can even remove bands of bark from young citrus trees, often killing them. The ants' nests can grow up to 2 feet (60 cm) high and are hazards in yards, parks, and other recreational areas.<sup>1</sup> In this particular case, death occurred not due to toxicity of the venom of the fire ants alone, but due to allergic reaction also, owing to prior sensitization of the baby in an earlier incident. Fire ant stings cause pain, swelling, and other local effects, plus the possible severity of the individual's allergic reaction.<sup>2</sup> This reaction may be so severe that victims might suffer sweating, slurred speech, chest pain, shortness of breath, swelling, nausea, vomiting, and anaphylactic shock.<sup>3</sup> Death can occur in sensitive individuals, including the very young or elderly. One source reports that fire ants sting as many as 14 million people each year, and anaphylaxis may occur in up to 6 percent of these individuals.<sup>4</sup>

While most investigators agree that the number of serious fire ant cases are relatively few, there are indications that the incidence of these cases may be growing. In recent years, there have been several documented serious fire ant-related cases associated with assisted living healthcare facilities, with some resulting in victim fatality, and several resulting in serious injury.<sup>5</sup> Additionally, there have been at least five fatalities that have occurred in residential settings, and many others resulting in varying degree of injury and requiring medical attention.

Large local reactions are a frequent occurrence after insect stings. One study prospectively analyzed the demography, immunology, and significance of these reactions in the paediatric age group.<sup>6</sup> Most children (83%) who had large local reactions, had positive skin test results to one or more venoms. Elevated amounts of venom-specific IgE antibody were usually present. Over 3 to 5 years, allergic sensitivity declined, as evidenced by less positive skin test results and lower levels of antivenom IgE antibodies. Most significantly, of 113 repeat stings, only 2% resulted in a systemic reaction.

**REFERENCES**

1. Trager JC. A revision of the fire ants, *Solenopsis geminata* group (Hymenoptera: Formicidae: Myrmicinae). J New York Entomol Soc 1991; 99: 141-198.
2. DeShazo R, Butcher B, Banks W. Reactions to stings of the imported fire ant. N Engl J Med 1990; 323: 462-466.
3. Valentine M. Allergy to the stinging insects Ann Allergy. 1993; 70: 427-432.
4. Bello PJ. Research review: Deadly force. Pest Control. 2006. <<http://www.pestcontrolmag.com/pestcontrol/article/articleDetail.jsp?id=326730>>.
5. Rhoades RB, Schafer WL, Newman M, Lockey R, Dozier RM, Wubbena PF. Hypersensitivity to the imported fire ant in Florida. Report of 104 cases J Fla Med Assoc 1977; 64: 247-254.
6. Grant DF, Schuberth KC, Kagey-Sobotka A, Kwiterovich KA. A prospective study of the natural history of large local reactions after Hymenoptera stings in children. J Pediatr 1984; 104: 664-668.