

## Angioedema Following Ingestion of Fried Flying Red Fire Ants

V NANDHAKUMAR

From Department of Pediatrics, Melmaruvathur Adhiparasakthi Institute of Medical Sciences Hospital, Melmaruvathur, Kancheepuram, Tamilnadu 603 319, India.

Correspondence to: Dr V Nandhakumar,  
B-6, Lakshmi apartments, Meenambal Street,  
Melmaruvathur, Kancheepuram, TN 603 319,  
India. nandhambbs@rediffmail.com  
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Red ants' sting anaphylaxis was rarely reported from India. But angioedema due to ingestion of fried "flying red fire ants" in children is almost never reported from India and also very rarely reported from outside India. We report a case of recurrent non allergic angioedema following ingestion of fried flying red ants.

**Key words:** Angioedema, Fried flying red ants, Ingestion, Child.

**R**ed fire ant (*Solenopsis Geminata Fabricius*) sting can cause allergy from local reactions to anaphylaxis [1]. However, angioedema due to ingestion of cooked 'flying red fire ants' in children has not been reported earlier.

### CASE REPORT

An 8-year-old boy was rushed to the pediatric emergency room of our hospital with the complaints of rapidly progressive swelling of within last 5 minutes. Swelling of face was first noticed in lips (**Fig.1**), periorbital region, ear lobules and then rapidly progressed to entire face. There was no history of breathlessness, pain or itching. There was no rash, but angioedema of face was noted. His vital parameters were normal. Mother gave the history of ingestion of fried flying ants (**Fig. 2**).

The reasons behind the ingestion of flying ants given by the mother were high iron content, improve the fertility status of the person and good taste. She also gave the past history of similar event but of lesser severity, since last

one year. No other family members developed allergy or angioedema on ingesting the same dish. Investigations showed normal total count of  $8300/\text{mm}^3$ , differential count of P58, L34, M1 and E7 and absolute eosinophil count of  $250/\text{mm}^3$ . Serum C1 esterase level was normal. Urine examination and renal function tests at admission and discharge were within normal limits.

The child was treated with intravenous hydrocortisone and antihistaminics. Edema started to decrease after 4 hours of management and the child recovered fully by 24 hours.

### DISCUSSION

Insects of the order hymenoptera, members of genus *Solenopsis* namely *S. invicta*, *S richteri* and *S geminate*, have a stinging apparatus at the tail end of their abdominal segment and are capable of delivering 100 ng of venom. The venom has various peptide and protein components and some of which are capable of inducing vasoreactive substances. It has been estimated that 1500



**FIG. 1** Angioedema of lips.



**FIG.2** Fried flying red fire ants.

stings would be required to deliver a lethal dose of hymenoptera venom for a non allergic adult weighs 70 kg [2]. Ninety-nine percent of the alkaloid component of red 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 [3]. Anaphylaxis is more common and severe in subsequent stings [4]. Serious complications like laryngospasm, seizures, rhabdomyolysis and acute renal failure were reported [5].

Allergic angioedema typically occurs within several minutes of exposure to insect stings. In the above case angioedema started after 5 hours of exposure without pruritus and urticarial rash suggesting non allergic etiology due to excess bradykinin release. The close

differential diagnosis is C1 esterase inhibitor deficiency, either hereditary or acquired, causing angioedema. This was ruled out in the above case by normal C1 esterase inhibitor level. The etiology of red ants' ingestion was concluded also on the basis of recurrent presentation on exposure to the same.

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## Precocious Puberty as Initial Presentation in Mediastinal Tumour

MANJUSHA NAIR, P KUSUMAKUMARY AND ANU NINAN

*From the Division of Pediatric Oncology, Regional Cancer Centre, Trivandrum, Kerala, India.*

Correspondence to:

*Dr Manjusha Nair, PRA-19, Prasanth,  
Pathirappally Road, Poojappura,  
Trivandrum, Kerala 695 012, India.  
drmanjushanair@gmail.com*

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Numerous disorders can cause precocious puberty in children, and germ cell tumours (GCT) are one of the rare causes. We report two cases of mediastinal malignant GCTs who presented with precocious puberty. Both patients had bulky and advanced disease, were aggressively treated with neo-adjuvant chemotherapy and surgery, and are surviving and free of disease.

**Key words:** *Germ cell tumour, Mediastinum, Precocious puberty.*

**I**sosexual precocious puberty is an uncommonly seen phenomenon, and this can occur due to various causes – central type due to stimulation of the hypothalamo-pituitary-gonadal axis or peripheral type due to sex hormone secretion independent of hypothalamic stimulation. Tumors are rare causes of sexual precocity, and initial presentation of mediastinal germ cell tumors (GCT) as precocious puberty is very uncommon.

#### CASE REPORT

*Case 1:* 10-year-old boy was referred to us with history of change in voice noted by parents one year back, followed sometime later by appearance of pubic hair and sudden increase in stature. He had been evaluated with multiple investigations including CT scan abdomen, bone scan and MRI of head, which were normal. Meanwhile, patient developed cough and breathlessness, and chest X-ray

revealed mediastinal mass, from which trucut biopsy was done. On examination, the boy was pale and tachypneic, had decreased breath sounds over right axillary and mammary areas, and firm hepatomegaly. His phenotype was normal, and he had enlarged gonads, thick pubic hair and deep voice. Complete blood counts and liver and renal function tests were normal. CT scan showed large soft tissue opacity occupying the anterior and middle mediastinum, opacification of right upper lobe of lung and rounded well-defined soft tissue masses in both lung fields suggestive of metastases. Ultrasound scan of abdomen showed hypoechoic area in right lobe of liver suggestive of metastases and right sided pleural effusion. Thyroid function tests, FSH, estradiol and testosterone were normal. Serum tumour markers revealed  $\beta$ -HCG of more than 50,000 mIU/mL and AFP of 269 ng/mL. The biopsy slide review was suggestive of germ cell tumour.

Patient was treated with chemotherapy using