

# Myositis due to Consumption of Swarmer Termites: A Case Report

Agrawal A<sup>1</sup>, Venkatrathamma P N<sup>2</sup>, Srinivas S V<sup>3</sup>

<sup>1</sup>Post Graduate, Dept. of Medicine, <sup>2</sup>Professor, Dept. of Medicine, <sup>3</sup>Assistant Professor, Dept of Medicine, Sri Devraj Urs Medical College, Kolar, Karnataka

## ABSTRACT

The practice of insect consumption, Entomophagy, is widely encountered in India due to significant nutritional and economic benefits to rural community. Local allergic reactions and systemic responses like bronchospasm, angioedema, anaphylaxis, and rarely seizures have been reported. We report the first case of generalised Skeletal and ocular muscles involvement, with no involvement of respiratory and gut muscles due to termite consumption with a favourable outcome.

**Keywords:** Entomophagy, Swarmer Termites, Skeletal and Ocular muscles involvement

## INTRODUCTION

In spite of change in eating habits and preferences, the practice of insect consumption, Entomophagy, is widely encountered in India. The traditional use of insect as food provides significant nutritional and economic benefits to rural community. Local allergic responses to various insects are well known and systemic reactions such as anaphylaxis, laryngeal edema, bronchospasm, serum sickness, and Seizures have been rarely reported.

In Karnataka, the winged termite is known as *Eechalu hula*. It's mentioned by Fobres<sup>1</sup> in 1813 that, termites are eaten by local tribes of Mysore and Carnatic region. We hereby report of case of consumption of fried Swarmed Termites belonging to family Isoptera Termitidae, leading to generalised myositis like picture along with ocular muscle involvement.

### Corresponding author:

**Ashish Agrawal**

Post Graduate, Dept. of Medicine  
R.L. Jalappa Hospital and Research Centre,  
Sri Devraj Urs Medical College, Tamaka  
Kolar, Karnataka, India-563101  
E-mail: ashishagin@hotmail.com  
Contact No. +91990028012

## CASE REPORT

A 40 year old lady housewife from remote rural of Kolar presented to emergency department with complains of difficulty in swallowing, difficulty in breathing, generalized body aches, pain in face, neck and scalp. Patient gave history of, consumption of salted, Fried Swarmer Termites on previous night. There was no history of severe exertional work previous day, no history of trauma, exposure to pesticide, and concomitant insect sting or bite, there was no history of fever, rash, diarrhoea, pain abdomen, cough, hematuria, no ill habit of alcohol intake, was not on drugs for cardiac and other illness. There was no history of recent weight loss. Though other family members also consumed the Fried Swarmer Termites none of them developed similar symptoms. Previous year also though she had consumed Swarmer Termites there was no allergic response. Family history was insignificant otherwise.

On examination she was conscious, pulse: 86b/min, regular, Blood pressure: 120/80mmHg, respiratory rate: 18 cycles/min, there was no rash, no angioedema, and no respiratory distress. Cardiovascular, respiratory system and abdomen examination was insignificant. Nervous system examination revealed normal voice, normal cognition, there was bilateral drooping of eyelids, external ocular muscle

movements were restricted in all directions, pupil was spared, all the facial and jaw muscles were tender to touch and movements were restricted significantly (raising eyebrows, frowning, whistling, filling air, pouting lips, showing teeth, clenching teeth and tongue protrusion), limb muscles were tender to touch, movements were restricted and reflexes were intact. Sensory system was normal. Laboratory investigations: haemogram, creatinine, creatine phosphokinase, ALT, LDH, APT, rheumatoid factor, ANA, thyroid function, urine examination, Chest X-ray and ECG were normal. HIV was negative



Fig. 1. Drooping of both eyelids



Fig. 2. Sparing of pupil



Fig. 3. Involvement of facial muscles



Fig. 4. Swarmer Termite *Isoptera Reticulitermes*

Patient was admitted in Medical Intensive Unit started on steroids, antihistamines, antioxidants, small dose of opioid based analgesic, and intra muscular injections were avoided. 14 hours later patient noticed significant relief from body pains, was able to swallow without much pain, Urine output was adequate. There was no delayed renal failure. Drooping of eye lids improved on third day and resolved by more than 75 % on fifth day. She was able to walk without discomfort and was discharged.

## DISCUSSION

Termites of Family Isoptera are valuable source of protein fat and essential amino acids in diet of both primates and modern human <sup>2</sup>. After the first showers

of the rainy season, the winged adult sexual forms of termites attracted by the lights hover around the lights, lose their wings, drop to the floor, they are swept up, cleaned, fried and eaten in Tamilnadu, Mysore and Carnatic region<sup>3</sup>. It's also prevalent in places like Orissa, Jharkhand, Arunachal Pradesh, Manipur<sup>4</sup>. It is estimated in few studies that termites are good source of protein, carbohydrate, essential and non essential amino acids<sup>2</sup>. They are better source of Iron, Magnesium, Zinc and Selenium than conventional food item like Turnip, cauliflower, Bitter Gourd, green gram etc<sup>2</sup>. It's also used as supplement for increasing lactation and against Asthma, in some south Indian tribes<sup>5</sup>.

Local allergic responses to Entomophagy are well known and systemic reactions such as anaphylaxis, laryngeal edema, bronchospasm, serum sickness, seizures and Rhabdomyolysis have been rarely reported<sup>7</sup>. Similar case with angio edema in paediatrics age was reported by V. Nandha Kumar<sup>6</sup> due Red Fire Ants consumption of order hymenoptera.

We Report above case as it is a rare presentation and may be the first report due to consumption of termite of order Isoptera, *Reticulitermes* species. Reactions to Insect of order hymenoptera are documented. It is attributed to formic acid and various peptide and protein components, which are capable of inducing vaso-reactive substances found in there venom<sup>7,8</sup>. But there is no literature suggesting extensive involvement of skeletal and ocular muscles after swarmed termite consumption.

We present above case to sensitize the physicians about atypical side effects of Entomophagy which is prevalent in large scale in India.

## CONCLUSION

We report above case as the first case of generalised Skeletal and ocular muscles involvement, with no involvement of respiratory and gut muscles due to termite consumption with a favourable outcome. The case report emphasises and creates awareness about atypical manifestations of Entomophagy, which are manageable with careful monitoring and symptomatic therapy.

**Conflict of Interest:** None.

**Ethical Clearance:** Obtained/Yes.

**Statement of Informed Consent -** Obtained/Yes.

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