

**ATYPICAL PRESENTATION FOLLOWING EXPOSURE TO PINE PROCESSIONARY
CATERPILLAR (THAUMETOPOEA PITYOCAMPA) AT CHILDREN IN NORTHERN
ISRAEL**Nasser Wael^{*1}, Chen G.², Nasser Suzan², Avi On³, Fairose Nasser² and Abozaid S.²¹Nephrology & Hypertension Division Baruch-Padeh Poriya Medical center, Lower Galilee, Faculty of medicine in Galilee, Bar Ilan University Israel.²Department of pediatrics Baruch Padeh Poriya Medical Center Lower Galilee.³Department Gastroenterology Baruch Padeh Poriya Medical Center Lower Galilee.***Corresponding Author: Nasser Wael**

Nephrology & Hypertension Division Baruch-Padeh Poriya Medical center, Lower Galilee, Faculty of medicine in Galilee, Bar Ilan University Israel.

Article Received on 19/06/2018

Article Revised on 10/07/2018

Article Accepted on 31/07/2018

ABSTRACT

The pine processionary caterpillar, *Thaumetopoea pityocampa*, is considered an emerging pine pest in Mediterranean countries, with high medical relevance. In recent years, adverse reactions reports in humans following contact with *T. pityocampa* have been increasingly reported.^[1] If they come in contact with skin, they can cause a variety of reactions, notably contact urticaria and papular rashes. Several cases of anaphylactic reactions have been reported in recent years. Mechanical (irritative) mechanisms may be involved in the pathogenesis of lesions, or immunoglobulin E-mediated allergic hypersensitivity reactions may be implicated when the process is rapid, recurrent, and progressively more severe.^[2] We reported two pediatric cases of orofacial edema and periorbital cellulitis following exposure to pine processionary caterpillar.

Case report 1: A two year old boy, generally healthy, was admitted to the pediatric emergency department in "PADEH" Medical center, Poriya, due to orofacial swelling involving the left lower 1/3 of the tongue.

On arrival, physical examination revealed diffuse swelling and edema of the lips and tongue with excessive salivation without signs of anaphylaxis. During anamnesis, the parents recall to have seen the type of caterpillar in their home surroundings, but do not recall the exposure of the child.

The child was carefully examined by an E.N.T physician who did not reveal any life threatening findings. The patient was treated with systemic steroids, antihistaminic Dimethindene Maleate drops and Augmentin (Amoxicillin +Clavulanic Acid) antibiotics.

He was hospitalized for 4 days in the pediatric ward.

Under the treatment we reported a good clinical reaction with improvement of the swelling.



Case report 2: A two and a half year old girl, generally healthy and vaccinated for her age, arrived to the pediatric emergency department due to severe swelling and ptosis of the right eye following exposure to caterpillar.

Physical examination revealed diffuse right periorbital swelling and edema.

The child was examined by an ophthalmologist who ruled out any involvement of the cornea or conjunctiva.

The child was treated with systemic steroids, antihistaminic Dimethindene Maleate drops and Ceforal (Chphalexin) antibiotics to prevent secondary infection.



INTRODUCTION

Thaumetopoea pityocampa is a “phenomenal” insect. The term comes from the Greek *cámpa* (caterpillar), *pítys* (pine), *poieo* (does), *tháuma* (wonders).^[3]

The pine processionary caterpillar is the larval form of the *Thaumetopoea pityocampa* moth. Mediterranean forests regularly suffer plagues of this insect, which has been moving north as a result of global warming. It is found in parts of Europe, northern Africa, and the Middle East.^[2]

Its life cycle consists of 4 stages: egg, larva (caterpillar), pupa, and adult.^[4]

The biological cycle encompasses 2 phases: an aerial as well as a ground one. The former begins with the moth formation and includes the evolution from eggs to larvae.^[3]

Caterpillars move among branches and also among trees in order to feed. These movements happen in a procession fashion (nose to tail columns), usually at night.^[3]

The small urticating hairs that develop during the last 3 larval stages are shed and can become airborne. J.^[2]

Werno et al proposed that *thaumetopoea* urticating hairs, especially those of *T pityocampa*, should be considered as important airborne insect-allergens.^[5]

The symptoms observed vary according to the exposure to the causative agent. Direct contact with the larvae causes edema, contact urticaria, conjunctivitis, temporary blindness, hypertension, and anaphylaxis.^[4]

The dermatitis is generally observed in late spring and particularly from April to June, among campers and tourists.

The eruption has its onset 1–12 hours after contact with the hairs and presents with intense and continuous itching. Morphologically, it is strophulus-like and consists of papulous, excoriated, and pinkish lesions on

an edematous base. Diagnosis is usually straightforward.^[3]

DISCUSSION

Allergic reactions to *T. pityocampa* urticating hairs have different clinical characteristics than those induced by a toxic-irritative mechanism and are more frequent than suspected. Allergic reactions to this caterpillar among occasional visitors to pine-wood areas should be taken into consideration by allergists.^[6]

J.M Vega et al thinks the type of reaction provoked by *Thaumetopoea pityocampa* depends on several factors, mainly previous exposure to, and degree of, contact with caterpillars.^[7]

Oral exposure with caterpillar as an ingestion has been reported in the literature mainly in dogs.^[1,4,8] Clinical signs comprise lingual, sublingual and submandibular edema and lingual necrosis. The most frequent sequel was partial loss of the tongue, following necrotizing glossitis.^[1]

In human it is described as an unusual source of ingestion and most of these cases were children under the age of 2.^[9]

Pitetti et al,^[9] reported ten patients presented to the emergency department following ingestion of a caterpillar. Local reactions such as drooling, refusal to drink and mild local edema were noted in nine of these cases, but neither of them were developed severe local reaction or respiratory distress requiring airway intubation.

The aim of this study was to share with colleagues the clinical picture that occurs following contact with pine processionary caterpillar, on which there is insufficient information regarding these kinds of symptoms as we described.

CONCLUSION

The cases that we described are interesting because of the contact site of the caterpillar causing local swelling and edema. It is an unusual source of ingestion as well as an unusual local, yet severe, reaction. As a matter of fact, in most of the exposed cases, dermatitis, contact urticaria or ocular lesions may develop and a few of them presents with symptoms as we noted.

Pine processionary caterpillar exposure should be considered as a cause in the diagnosis of periorbital cellulitis.

It must be kept in mind that contact to the face with caterpillar may result in a severe local reaction which resembles an allergic event; careful physical examination assessment can help to distinguish this entity.

REFERENCES

1. Niza ME, Ferreira RL, Coimbra IV, Guerreiro HM, Felix NM, Matos JM, et al. Effects of pine processionary caterpillar *Thaumetopoea pityocampa* contact in dogs: 41 cases (2002-2006). *Zoonoses and public health*, 2012; 59(1): 35-8. Epub 2011/08/10.
2. Vega J, Vega JM, Moneo I. [Skin reactions on exposure to the pine processionary caterpillar (*Thaumetopoea pityocampa*)]. *Actas dermo-sifiliograficas*, 2011; 102(9): 658-67. Epub 2011/05/07. Manifestaciones cutaneas originadas por la oruga procesionaria del pino (*Thaumetopoea pityocampa*).
3. Bonamonte D, Foti C, Vestita M, Angelini G. Skin Reactions to pine processionary caterpillar *Thaumetopoea pityocampa* Schiff. *The Scientific World Journal*, 2013; 2013: 867431. Epub 2013/06/20.
4. Esma YILDAR ÖG. Tongue necrosis in a dog associated with the pine processionary caterpillar and its treatment. *Turkish Journal of Veterinary and Animal Sciences*, 2013; 238-41.
5. Werno J, Lamy M, Vincendeau P. Caterpillar hairs as allergens. *Lancet*, 1993; 342(8876): 936-7. Epub 1993/10/09.
6. Vega JM, Moneo I, Armentia A, Fernandez A, Vega J, De La Fuente R, et al. Allergy to the pine processionary caterpillar (*Thaumetopoea pityocampa*). *Clinical and experimental allergy: journal of the British Society for Allergy and Clinical Immunology*, 1999; 29(10): 1418-23. Epub 1999/10/16.
7. Vega JM, Vega J, Vega ML, Moneo I, Armentia A, Sanchez B. Skin reactions to pine processionary caterpillar. *Allergy*, 2003; 58(1): 87-8. Epub 2003/02/13.
8. Y. Bruchim ER, J. Saragusty, I. Aroch. Severe tongue necrosis associated with pine processionary moth (*Thaumetopoea wilkinsoni*) ingestion in three dogs, 2005.
9. Pitetti RD, Kuspis D, Krenzelok EP. Caterpillars: an unusual source of ingestion. *Pediatric emergency care*, 1999; 15(1): 33-6. Epub 1999/03/09.