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BRIEF REPORT

Megalopyge opercularis Caterpillar Stings Reported to Texas Poison Centers

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Introduction—The *Megalopyge opercularis* caterpillar is covered with spines that break off and release venom on contact, resulting in severe pain, erythema, rash, and other adverse effects. In Texas, these caterpillars are abundant and of potential health threat. This study describes *M opercularis* caterpillar stings reported to Texas poison centers.

Methods—Cases were *M opercularis* caterpillar stings reported to Texas poison centers during 2000–2016. The distribution of stings was determined related to exposure circumstances and management.

Results—There were 3484 *M opercularis* caterpillar stings reported during 2000–2016. The annual number of stings did not consistently change over the 17-year time period. The monthly number of stings was highest in July (12%) and October to November (59%). The patients were female in 53% of cases and aged 20 years or more in 56%. The sting occurred at the patient's own residence in 91% of cases. The patients were managed outside of a healthcare facility in 89% of cases; 93% of the patients were known or expected to have no or at most minor clinical effects. Dermal clinical effects were reported in 90% of cases, the most common being irritation/pain (84%), puncture/wound (45%), erythema/flushed (29%), and edema (15%).

Conclusions—*M opercularis* caterpillar stings reported to Texas poison centers were more frequently reported in July and October to November. Most of the patients were adults. The majority of patients were managed outside of healthcare facilities and did not have serious outcomes. Most of the adverse clinical effects were dermal in nature.

Keywords: puss caterpillar, asp, venomous caterpillar

Introduction

The *Megalopyge opercularis* caterpillar, commonly known as the puss caterpillar, asp, wooly asp, Italian asp, opossum bug, wooly slug, and el perrito (the puppy), is one of the most venomous caterpillars in North America.[1] *M opercularis* is primarily found in the southeastern United States as far north as Virginia and as far west as Texas.[1–3] The *M opercularis* caterpillar is tear-shaped, 2 cm in length, and 1 cm in width.[1,3] It may be white, gray, light tan, yellow, reddish-brown, or a mixture of colors (Figure 1).[1] Two generations of *M opercularis* caterpillars are produced each year, the first around June to July and the second during September to October.[3]

The *M opercularis* caterpillar has fur that forms a midline ridge along the back. Beneath the fur are concealed tubercular ridges or verrucae (rows of sharp, short, needle-like spines). When these verrucae come into contact with the skin, they break off, embed themselves, and discharge venom.[1,3] Contact almost immediately causes severe, intense, burning pain and erythema or rash. Within hours, hemorrhagic vesicles or pustules appear and last for several days. The person may experience numbness in the affected body part, headache, fever, nausea, vomiting, and abdominal pain that may last for several days.[1–5] Hundreds or thousands of *M opercularis* caterpillar stings may occur each year.[3] Treatment may involve applying tape to the site and pulling it off to remove the spines (stripping), ice packs, antihistamines, and baking soda.[2,4,5]

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Figure 1. *Megalopyge opercularis* caterpillar. From https://pixabay.com/.

The published literature on *M opercularis* caterpillar stings mostly consists of case reports[6–12] or a relatively small number of cases.[2,4,13] The objective of this investigation was to describe *M opercularis* caterpillar stings reported to poison centers in Texas, a state where *M opercularis* caterpillars have been noted to be particularly abundant.[1–3] One previous study characterized *M opercularis* caterpillar stings using Texas poison center data[4]; however, that study covered only part of the state and included data from a single year.

Methods

The case definition for the study was *M opercularis* caterpillar stings reported to the Texas Poison Center Network (TPCN) during 2000–2016. The TPCN consists of 6 poison centers that together serve the entire state, which has a current population of over 25 million. In the United States, a poison center is a telephone communications system that assists in the management of potentially adverse exposures to a variety of substances and products. The poison centers of the TPCN use a common electronic database to document information on all received calls in a consistent manner. The data variables and coding in this database were standardized by the American Association of Poison Control Centers.[14]

Cases involving substances or products in addition to the caterpillar sting (n=7) were included in the study. Patients who were not followed to a final medical outcome also were included to provide medical outcome information for all cases. The distribution of cases was determined for the year and month of the sting, caller county, patient age and sex, exposure site, management site, medical outcome, adverse clinical effects, and treatments. The TPCN database does not contain a data field specifically for the body part where a bite or sting might occur. This information might be recorded in the "notes" text field, but if so, it is not documented consistently. Thus, the body part where the *M opercularis* sting occurred was not analyzed.

The caller county is the county from which the initial call to the TPCN originated. This may not be the county where the sting occurred or where the patient resides and may not be known for all cases. The medical outcome or severity of an exposure is assigned by the poison center staff and is based on the observed or anticipated adverse clinical effects. Medical outcome is classified according to the following criteria: no effect (no symptoms due to exposure), minor effect (some minimally troublesome symptoms), moderate effect (more pronounced, prolonged symptoms), major effect (symptoms that are life-threatening or cause significant disability or disfigurement), and death. A portion of exposures are not followed to a final medical outcome because of resource constraints or the inability to obtain subsequent information on the patient. In these instances, the poison center staff records the expected outcome of the exposure. These expected outcomes are grouped into the following categories: not followed but judged as nontoxic exposure (symptoms not expected), not followed but minimal symptoms possible (no more than minor symptoms possible), and unable to follow but judged as a potentially toxic exposure. Another medical outcome category is unrelated effect, in which the exposure was probably not responsible for the symptoms.

In the TPCN database, there are over 130 checkboxes for recording specific adverse clinical effects (eg, hypertension, nausea, vomiting, headache, fever). If a patient has a clinical effect that does not correspond to one of these checkboxes, it is assigned a checkbox for "other." Also, there are over 60 checkboxes for specific treatments or therapies (eg, activated charcoal, food/snack, benzodiazepines, intravenous fluids) and one checkbox for "other." The clinical effects and treatments may be documented in the "notes" text field; however, this does not always occur.[15] Analysis of the clinical effects and treatments was restricted to the checkboxes.

The Texas Department of State Health Services institutional review board considers this research exempt from ethical review.

Results

A total of 3484 *M opercularis* caterpillar stings were identified during 2000–2016. The annual number of stings varied from year to year, from 43 to 416, with no consistent increase or decrease over the 17-year period (Figure 2). Table 1 presents the monthly distribution of *M opercularis* caterpillar stings. Peaks