



Background:

- Black widow species (Latrodectus species) envenomation can produce a syndrome characterized by painful muscle rigidity and autonomic disturbances.
- Symptoms tend to be more severe in young children and adults.



(<https://www.nationalgeographic.com>)

Objective:

- To describe black widow spider bite exposures in a large cohort or pediatric patients, to assess treatments and outcomes, and to investigate reasons for not using antivenom in severe cases

Methods:

- Design: Retrospective case series over a 3 year period (1/12-12/15)
- Setting: Rocky Mountain Poison Center
- Data Collection: Review of hospital records after identification in Poison Center database.
- Subjects: Pediatric patients (<18 years) with black widow spider envenomation
 - Group 1: contacted poison center directly
 - Group 2: contacted poison center through healthcare facility

Results:

- 93 cases identified
 - 43 calls (43%) from group 1
 - 53 calls (57%) from group 2
- Symptoms evident in all patients:
 - 43 (46.2%) were grade 1
 - 16 (17.2%) were grade 2
 - 34 (36.5%) were grade 3
- 14 patients (43%) with grade 3 symptoms received antivenom
- 20 patients (57%) with grade 3 symptoms did not receive antivenom
- Median time from bite to antivenom administration was 12 hr (0.5-48 hrs)
- Reasons for not receiving antivenom included:
 - Skin test positive (2/20)
 - Strong history of asthma or allergies (2/20)
 - Physician preference (2/20)
 - Antivenom not available at the health care facility (14/20)

Characteristics of children requiring antivenom therapy.						
Age in years/gender	Time from bite to antivenom (hours)	Clinical manifestation	Treatment before the antivenom	Outcome improvement (minutes)	Test antivenom	Adverse reaction
13/F	20	Severe back pain, muscle cramps	Morphine, benzodiazepines, fluids	45	No	No
6/M	8	Severe back pain, muscle cramps	Morphine, benzodiazepines, fluids	30	No	Yes ^a
13/M	24	Muscle cramps, chest pain, abdomen pain, hypertension, tachycardia	Morphine, benzodiazepines, fluids	30	No	No
12/F	22	Muscle cramps, chest pain	Morphine, benzodiazepines, fluids	40	No	No
3/F	12	Muscle cramps, irritability state	Morphine, benzodiazepines, fluids	30	Yes	No
17/M	20	Muscle cramps, back pain, diaphoresis	Morphine, benzodiazepines, fluids, ondansetron	20	No	No
1.5/M	36	Irritability state, grunting, tachycardia, diaphoresis	Morphine, benzodiazepines, fluids	20	No	No
1.7/M	48	Muscle cramps, rigid abdomen, grunting, priapism, fasciculation, tachycardia	Morphine, benzodiazepines, fluids	20	No	No
11/M	24	Muscle cramps, rigid abdomen, vomiting	Morphine, benzodiazepines, fluids	20	No	No
1/M	24	Muscle cramps, irritability state, rigid abdomen	Morphine, benzodiazepines, fluids	20	No	Yes ^b
4/M	24	Muscle cramps, irritability state	Morphine, benzodiazepines, fluids	40	No	No
18/M	18	Muscle cramps, diaphoresis, tachycardia, piloerection	Morphine, benzodiazepines, fluids	20	Yes	No
1.6/M	8	Muscle cramps, irritability state	Morphine, benzodiazepines, fluids	20	No	No
17/M	8	Muscle cramps, irritability state	Morphine, benzodiazepines, fluids	20	No	No

M = male; F = female.

^a Swelling on the opposite hand one week after the antivenom, follow up at the clinic, no fever, no renal dysfunction. Rule out serum sickness.

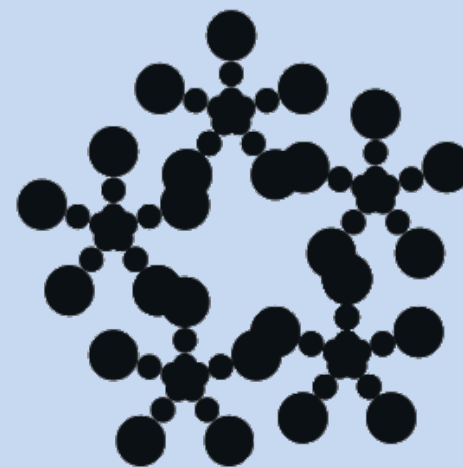
^b Hives on body, allergic reaction, no anaphylaxis. Treated with antihistamines and oral steroids.

Table 1 : Characteristics of children requiring antivenom therapy

Conclusion & perspectives :

- In our study, most symptomatic black widow envenomations were minor.
- Relatively few patients received antivenom, but antivenom use was associated with shorter symptom duration among moderate and major outcome groups.

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