

# Toxicity over world by snake, spider, honeybee

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## ABSTRACT

Toxicosis is a poisoning caused by venomous animals such as snake, scorpion, honeybee, spider, and wasp. Their poisons contain amino acids, peptides, proteins, enzymes, and metallic ions that are responsible for neurotoxicity, hemotoxicity, and myotoxicity. Because of *in vivo* therapeutic challenges posed by toxicosis, there is need for ideal therapeutic agents against envenomation caused by venomous animals. Findings have shown that toxicosis could be treated symptomatically. Antivenins could be used for treatment of poisoning caused by snake, scorpion, honeybee, spider, and wasp. The amount of antivenin is dependent on the quantity of venom injected into the affected individuals. Symptomatic treatments are also done according to the systems affected. Hospitalization is necessary for assessment

of therapeutic success.

The Middle East and North Africa collectively known as the MENA region is home to a wide variety of venomous animals that cause up to 20000 bites and stings each year. To understand the health burden and the key variables influencing it this review describes the epidemiology of snakes scorpions and spiders asked primarily on heterogeneous hospital data in the MENA region. And diseases associated with their venom. Furthermore we discuss the venom composition and major medically relevant poisons of these venomous animals and finally the antagonists currently used against them. In contrast to Asia and sub-Saharan Africa scorpion stings are significantly more frequent (about 350000 cases/year) than snakebites (about 70000 cases/year) and are the largest contributor to the health burden. Overall well-being from a spider bite.

**Key Words:** Toxicosis; Venom bites; Toxicology; Snake; Bee

## INTRODUCTION

Venomous animals such as snake, scorpion, honeybee, spider, and wasp constitute very significant health hazard in the world. The snake venom contains many toxic and nontoxic molecules. 47 out of 50 US States have venomous snakes. South-western US are mostly affected. About 700 venomous snakes bite human and 150,000 primarily dogs and cats are bitten by venomous snakes every year in the US, with human mortality of 0.06% and that of dog is 1%–30%. Scorpion disease is caused by many species of poisonous scorpions, including the species *Tityus* endemic to Panama, while *Centruroides* is endemic to Guatemala, Belize, El Salvador, Nicaragua and Costa Rica. They are extremely toxic through unclassified active poisons. In Panama, the incidence was 52 cases per 100,000 people in 2007 and 28 deaths were recorded between 1998 and 2006, respectively. Approximately 200,000 cases of scorpion disease are reported in Mexico and cause 310 deaths per year, and 20,000 of the 38,068 affected have been successfully treated with equine antiserum (serum therapy) and no one lost their life. Most species related to envenomation are in the genus *Tityus*.

The honey bee (*Apis mellifera*) is a major nuisance and of medical importance in Africa, Europe and other parts of the world. Other subspecies are *A. mellifera ligustica*, *A. mellifera carnica* and *A. mellifera scutellata*. Bee venoms vary in weight and concentration of phospholipase. Unfortunately,

there is no specific anti venom known to bees; therefore, sting excision, first aid, and appropriate chemotherapy should be considered a medical emergency.

In view of the increasing challenges and neglect of venomous snakes, scorpions, spiders, wasps and bees, careful study of their treatment regimens is needed for a lasting solution against dead.

## CONCLUSION

The toxicity of snake and scorpion venom depends on the amount of venom while the toxicity in humans depends on the number of liters and the amount of venom produced per liter. The venom of snakes and scorpions is the most dangerous. However the venom of some snakes and scorpions is virulent and requires 2 or more anti-venom. The LD50 of venom in an adult is 2.5 mg/l which can be neutralized by 7.5 mg/l (3LD50) of the venom. The LD50 of bee venom in children is 1.

1 mg/l and can be neutralized by 11.2 mg kg (7.9 LD50) of the venom. Therefore treatment includes anti-venom anti-inflammatory analgesic and respiratory support. Neurological and cardiorespiratory signs may consider as indices of therapeutic success or failure. Prompt therapeutic intervention and hospitalization of 1 or more days could either delay or avert death. In the cases of severe anemia transfusion and fluid therapy may evident.

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