

# Therapeutic Management Of Scorpion Envenomation In Golden Retriever Male Dog- A Case Report

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## **Abstract**

India is a home to numerous species of Scorpion. There are about 1500 species of scorpions worldwide, out of these 50 are dangerous to canines & Felines (Scorpion stings can cause significant harm to the patient, especially in puppies or Geriatric canines & Felines patients. In these patients, securing the airway is critical if they are unresponsive to antivenom and other medical interventions. If The Poisonous Scorpion stung once and then immediately death (Avinash Agrawal et al, 2015).

Scorpion envenomation may lead to local pain and swelling, larger regional reactions, anaphylactic reactions after scorpion sting, and occasional delayed toxic reaction within 24 hours in humans characterized by hemolysis, coagulopathy, hepatopathy, thrombocytopenia and disseminated intravascular coagulation (Kolecki 1999; Fitzgerald and Flood, 2006).

The dog showed vocalization inserted with drowsiness. Physical examination showed slightly hyperemic mucous, pain, aggressiveness, tachypnea, tachycardia, and discrete erythema on the right forelimb palmar face. An anesthetic block was performed around the stung area using 2% lidocaine hydrochloride without vasoconstrictor (10mL).

The animal was asymptomatic, after 24 h treatment. The literature about clinicopathology of Scorpion sting in dogs is rare. The present case depicts the clinical sign & symptoms and haemato-biochemistry in Golden Retriever dog suffering from Scorpion sting bites.

**Keywords:** scorpion, dog, envenomation, poisoning, Golden retriever

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## **I. Case History And Clinical Observations**

A 4-year-old male Golden Retriever dog weighing 21 kg was presented to VCC alankar Nagpur. dogs may show agitation, shivering, sudoresis, visual alterations, erythema and priapism and may also show drowsiness and coma and strike of Scorpion sting acute pain or lameness, generally on a foot but occasionally elsewhere on their body. The scorpion doesn't leave any visible signs on the skin so this is a diagnosis made by ruling everything else out. and inguinal region including testicle. The dog was treated locally for a day with antihistaminic and vitamin B complex injections once daily and was admitted to Teaching Veterinary Clinical Complex up on deterioration of health on fourth day of bite. History revealed complete anorexia with reduced water intake, blackish feces and decreased frequency of urination. Clinical examination revealed fever (104.5°F), tachycardia(104 bpm) and increased respiration rate (46/min), pallor of conjunctival mucous membrane (Fig. 1), dry muzzle, slight watery nasal discharge.(Cardoso M J L 2004) Nervous demeanour showed dullness and severe weakness (Fig. 2). The areas with Scorpion sting were more pronounced (Fig. 3) and swelling was prominent on left hind leg.

Treatment of venomous Centruroides stings consists of bed rest, benzodiazepines for muscle spasms, and IV drugs as needed to control hypertension, agitation, and pain..

## **II. Discussion**

Scorpion venom consists of mixtures of Mucopolysaccharides, Hyluronidase and Phospholipids, Serotonin, Histamines, enzyme inhibitor and neurotoxic peptides (Perez- Riverol et al., 2015). Honeybees bite victim with barbed stinger which is lost after stinging followed by death of bee. The deaths due to honey bee stinging in animals are attributed to immediate hypersensitivity reaction causing anaphylaxis while massive envenomation's can lead to death in non-allergic individuals (Fitzgerald and Flood, 2006).

Scorpion envenomation in canines is characterized by elevated temperature, depression, neurological signs like facial paralysis and ataxia, dark brown urine, blood in feces and bloody or dark brown vomitus (Cowell et al., 1991), leukocytosis, thrombocytopenia if DIC is imminent (Fitzgerald and Flood, 2006).

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Secondary immune mediated hemolytic anemia may be observed in dogs with multiple stings (Noble and Armstrong, 1999). Mughal *et al.* (2014) reported fever, tachycardia, tachypnea, swelling at the site of bite along with leukocytosis, anemia and elevated liver enzymes, creatine kinase, BUN and creatinine in German Shepherd dog massively attacked by honey bees. Similar clinical and hemato-biochemical findings were observed in the present case of honeybee sting in Labrador dog. Treatment generally consists of fluids, oxygen, epinephrine, corticosteroids, antihistamines and analgesics (Buckley *et al.*, 2017). The fate of treatment depends on number of stings, response of host to Scorpion bite and execution of timely treatment.



**Fig. 1: Pallor Of Conjunctival Mucous Membrane In A Male Golden Retriever Dog Suffering From Scorpion Sting**



**Fig. 3: At The Site Of Bite In Ear Of A Golden Retriever Dog**



**Fig. 2: Severe Dullness, Weakness And Swollen Testicle In A Male Golden Retriever Dog Suffering From Scorpion Sting**

Sr. No.	Parameter Case values	Parameter Case values	Normal values
1	TEC (X 106/ $\mu$ l)	2.19	1.19 4.95-7.89
2	Hb (gm %)	4.4	11.9-18.9
3.	. PCV (%)	10.16	8.16 35-57
4.	. MCV (fl)	68	68 60-77
5.	. MCH (pg)	28	27 21-26.2
6.	. MCHC(g/dl)	40.8	39.4 32-36.3
7.	. TLC (X 103/ $\mu$ l)	56.50	54.50 5-14.1
8.	Neutrophils (%)	75.4	73.9 58-85
9.	. Monocytes (%)	6.4	6.4 2-10
10.	Lymphocytes (%)	20.8	19.7 8-21
11.	Thrombocytes (X103/ $\mu$ l)	204	201 211-621
12	ALP (U/L)	215 1-114	215 1-114
13	AST (U/L)	271 13-15	271 13-15

14	<b>ALT (U/L)</b>	48 10-109	48 10-109
15	<b>Total Bilirubin</b>	1.7 0-0.3	1.7 0-0.3
16	<b>Direct Bilirubin</b>	0.58 0-0.1	0.58 0-0.1
17	<b>Indirect Bilirubin</b>	1.12 0-0.2	1.12 0-0.2
18	<b>BUN (mg/dl)</b>	46 8-28	46 8-28
19	<b>Creatinine (mg/dl)</b>	2.7 0.5-1.7	2.7 0.5-1.7
20	<b>Calcium (mg/dl)</b>	11.5 9.1-11.7	11.5 9.1-11.7
21	<b>Phosphorus (mg/dl)</b>	5.7 2.9-5.3	5.7 2.9-5.3

Buckley *et al.* (2017) successfully treated 9-year-old intact Male mixed breed dog suffering from multiple Scorpion sting (about 10) and having pre-existing mild chronic renal degenerative process which was transformed into acute decompensation during bee envenomation.

Massive honeybee attacks in dogs may produce severe pathology like rhabdomyolysis, hemolysis and acute renal failure from direct tubular toxicity (Cowell *et al.*, 1991).

In present report, the case of male Golden Retriever dog with Scorpion Sting was admitted to clinics on fifth day after deterioration in health condition, hence late treatment was not beneficial in minimizing the pathology. The pathological changes could have occurred over first 4 days. The death in treated dog could be attributed to severe anemia, severe leukocytosis and renal failure induced by Poisonous Scorpion toxins.

In conclusion, a case of massive attack of Scorpion Sting in male Golden Retriever was reported with characteristic febrile response, severe leukocytosis, mild thrombocytopenia, anemia and swelling over the site of bite.

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