



## CLINICAL PROFILE AND EFFICACY OF PRAZOSIN IN SCORPION STING ENVENOMATION AT A TERTIARY CARE HOSPITAL

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**ABSTRACT** **Aims & Objective:** This study was an evaluation of clinical presentation, the outcome and the efficacy of Prazosin in scorpion sting envenomation and the role of early prazosin use in preventing complications. **Method:** This study was carried out at Government General Hospital, Ananthapur, during the period of July -Dec 2021. A total of 60 cases of scorpion sting were studied prospectively. The data includes clinical features, response to prazosin and ECG changes. Patients were examined frequently at admission, 1 hr, 6hrs, 12hrs, 24hrs after admission and further examination was done as needed. **Results:** Local pain at the site of the stings, sweating and peripheral circulatory failure were the common clinical presentations. Complications like acute pulmonary edema, myocarditis, shock & encephalopathy were also seen. These were treated with oral prazosin with either inotropes or vasodilators. Oral prazosin, a post-synaptic alpha-1 blocker is a highly effective drug for scorpion sting envenomation. **Conclusion:** Scorpion sting envenomation is a common health concern. Early presentation at hospital and early intervention with prazosin, hasten the recovery and reduce mortality among scorpion envenomated victim.

**KEYWORDS :** Scorpion sting, alpha blocker, prazosin

### INTRODUCTION

Scorpion sting is a common acute life-threatening emergency encountered in villages of India. Cardiovascular morbidity and mortality depend upon the timelapse between sting and hospitalization, and this delay in transport contributed to their death.

### MATERIALS & METHODS

#### Study Population

This is an observational study of 60 cases of scorpion sting admitted in the acute medical care unit and medical wards of GGH Ananthapur, for a period of 10 months. The clinical manifestation, complications, outcome, and response to standard protocol therapy with prazosin were studied.

INCLUSION CRITERIA	EXCLUSION CRITERIA
Cases of definite scorpion sting in patients of 15 years and above in which scorpion was seen in the vicinity of the patient.	Cases of scorpion sting <15 years of age
Patients with a history of bite coupled with classical clinical manifestation of scorpion sting were also included in the study.	Unknown bite, cases where clinical manifestation is not compatible with scorpion sting envenomation.

#### Study Method:

All cases of scorpion sting, admitted to the acute medical care unit and medical wards undergone a detailed clinical history and subjected to a thorough clinical examination. The patient was examined in detail again at 1 hour, 4 hours, depending on the need to study systemic envenomation and development of complications.

Hourly monitoring of heart rate, respiratory rate, blood pressure, cardiovascular, and respiratory status was done.

#### Treatment

- All patients were given tetanus toxoid depending on immunization status; All patients with local pain treated with 2% xylocaine infiltration.
- All symptomatic patients received standard protocol therapy with Prazosin 30 µg/kg/dose. It is repeated after 3 hours and later every 6 hours, till the extremities are warm and dry, peripheral veins are dilated. Time-lapse between the sting and initiation of prazosin was recorded, and subsequent development of complications were noted.
- Patients with pulmonary edema treated with oxygen, diuretics, and wherever necessary inotropic support was given. All patients were closely monitored for complications and managed accordingly.

### RESULTS

- Maximum numbers of cases were noted in the age group of 15-30 years accounting for 50% of the patients. The mean age of all patients is 32.7 years.

SYMPTOMS	No:of patients	PERCENTAGE
PAIN AT SITE	60	100%
PARESTHESIA	35	58.3%
SWELLING AT SITE	30	50%
PROFUSE SWEATING	37	62.0%
EXCESS SALIVATION	15	25%
DYSPNEA	20	33.3%
PALPITATIONS	10	16.6%
ALTERED SENSORIUM	5	8%

SIGNS	NO:OF PATIENTS	PERCENTAGE (%)
TACHYCARDIA	45	75
BRADYCARDIA	5	8
TACHYPNEA	20	33
HYPERTENSION	15	25
HYPOTENSION	10	16.6
ENCEPHALOPATHY	5	8
FOCAL NEUROLOGICAL DEFICIT	5	8

### DISCUSSION

- Prazosin can be given irrespective of blood pressure, provided there is no hypovolemia. Blood pressure, pulse rate, and respiration must be monitored every 30 minutes for 3 hours, then every hour for the next 6 hours.
- Oral prazosin is fast-acting, readily available, cheap, and free from anaphylactic reactions and highly effective. It is available as 1 mg tablet. The usual dose of prazosin is 30 µg/kg given stat and repeated after 3 hours, and later every 6 hours, till the extremities are warm and dry, and peripheral veins are dilated. The time-lapse between the sting and initiation of prazosin for symptoms and autonomic storm determines the outcome.
- In our study, complications were noted less frequently in patients who received prazosin within 4 hours compared to those who received it late (p<0.001). Most of the complications were seen in those patients who did not receive prazosin early in the course.

### CONCLUSION

- Most of the scorpion stings in India are due to Indian red scorpion. Myocarditis and pulmonary edema are fatal complications that require urgent attention, and ICU care form a few hours to days.

Delay in recognition of pulmonary edema and hypoxemia increases morbidity and mortality.

- The use of Prazosin has revolutionized the management of scorpion sting envenomation. Early and effective Prazosin therapy is the single most economic intervention for preventing complications. Prazosin is an effective pharmacological and physiological antidote to venom.
- It is crucial to make public aware and to train rural health workers to use Prazosin as early a possible to prevent fatal complications like pulmonary edema.

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