



Case of Scorpion bite

INTRODUCTION

A 32 yr old lady was brought by her husband to the casualty with her right hand tied till her wrist and hand completely cyanosed-palm and dorsum and beyond. On eliciting the history it was found that an hour back, the patient was washing utensils when suddenly she felt a sting followed by a burning sensation on the right index finger. She ignored it and continued working. After 15 min she went to take bath and found she could not hold the mug because of numbness and burning. She informed her husband. Her husband went to the kitchen and saw a small crab like insect with a fleshy tail ending in a hollow sting- a scorpion- hidden inside the scrub meant for washing utensils. They killed it. They rushed and tied a tourniquet around the wrist so that poison would not spread and immediately brought her to the hospital.

CHIEF COMPLAINT: Patient was complaining of numbness³ of whole hand and mild burning at the site of sting.

GENERAL EXAMINATION: Appearance-tall, well-built, well nourished female.

No pallor, lymphadenopathy, oedema.

T-98.6F, P-80/min, RR.-18/min, BP-110/80mmHg.

LOCAL EXAMINATION: Cyanosis of right hand till wrist both palmer and dorsal aspect seen before removing tourniquet. It reverted back to original appearance after removal of tourniquet. Swelling of right index finger. No redness and warmth.

SYSTEMIC EXAMINATION

RS-chest clear, PA-soft NAD, CVS-NAD

CNS- conscious, oriented to time place and person.

Reflexes-N, Power N

Sensory function- Sensations to pain and touch lost in all fingers

After going through the case let's focus on pathophysiology of scorpion poison.

PATHOPHYSIOLOGY OF SCORPION POISON

Scorpion stings are major health problems in many underdeveloped tropical countries. For every person killed by poisonous snake, 10 are killed by poisonous scorpion.

Out of 1500 species, 50 species of scorpion are dangerous to man. Scorpion stings cause a wide range of conditions from local skin to neurological, respiratory and cardiovascular collapse. These are nocturnal creatures, hunt during night, hides in crevices and burrows during day to avoid light. These are non-aggressive creatures which do not sting unless disturbed. Thus accidental human stinging occurs when scorpions are touched while in their hiding places.

Scorpion poison is water soluble, antigenic, heterogeneous mixture. This heterogeneity accounts for variable patient's reaction to scorpion sting. Difference in amino-acid sequences results in modification of function and immunology.

COMPOSITION OF VENOM

Varying concentrations of neurotoxin, cardio-toxin, Nephrotoxin, haemolytic, phosphodiesterases, phospholipases, hyaluronidase, glycoaminoglycans, histamine, serotonin, tryptophan and cytokine releasers. Most potent is neurotoxin of which two classes exist. The long chain polypeptide neurotoxin causes stabilization of voltage dependent Na channels in the open position, leading to continuous prolonged, repetitive firing of somatic, sympathetic and parasympathetic neurons. This repetitive firing results in autonomic and neuromuscular over excitation



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symptoms and prevents normal nerve transmissions. Furthermore it results in release of excessive neurotransmitters such as acetylcholine, epinephrine, nor epinephrine, glutamate and aspartate. Meanwhile short polypeptide neurotoxin blocks potassium channels. Binding of this neurotransmitter to host is reversible but different neurotoxins have different affinities. Most deaths occur during first 24 hrs after sting and are secondary to respiratory and cardiovascular failure.

Grading of scorpion bites depends on whether or not neurological signs predominate. It is as follows:

NON NEUROLOGICAL PREDOMINANCE

MILD- local signs

MODERATE- Ascending local signs or mild systemic signs

SEVERE- Life threatening systemic signs

NEUROLOGICAL PREDOMINANCE

GRADE 1- Local pain or paresthesia at sting site.

GRADE 2- Pain or paresthesia which has traveled from sting site.

GRADE 3- Either cranial nerve or somatic neuramascular dysfunction.

CYTOTOXIC LOCAL EFFECTS: A macule or papule appears initially at sting site, occurring within first hour.

-The diameter of the lesion is dependent on quantity of venom injected

-The lesion progresses to a purpuric plague that will necrose and ulcerate.

-Lymphaginitis results from transfer of venom through lymph vessels.

NON LETHAL EFFECTS

-Pain erythema, induration and wheal may be present.

-These are secondary to venom activation of kinins and slow releasing substances.

CLINICAL FEATURES

-Violent burning, irritation, pain and redness.

-Headaches, giddiness, nausea, muscular cramps followed by unconsciousness.

Mode of death via respiratory failure secondary to anaphylaxis, bronchorrhoea, pharyngeal secretions and multi organ failure.

MEDICAL CARE NEEDED

PRINCIPLES OF TREATMENT

Frequent monitoring allows early recognition of life threatening problems of scorpion evenomation.

Moving away from scorpion, stabilizing patient's airway and vital signs.

Administration of antivenin and institution of symptomatic and local treatment.

LOCAL TREATMENT

Application of ice bags to reduce pain and injecting anesthetic agents to reduce pain and produce paresthesia- such is the intensity of pain.

Immobilization

compression wrap 1 inch proximal to sting site to reduce venous and lymphatic flow but not to stop arterial flow.

APPLICATION OF CLINICAL KNOWLEDGE IN MANAGING THIS CASE WITH HOMOEOPATHY

NEED FOR ADMISSION

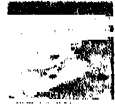
Patient's husband was anxious about her condition but came with the intention of taking medication and returning back. He was explained that first 24 to 48 hrs are crucial in a case of scorpion poisoning for the full symptomatology to develop. So monitoring for first 24 hours becomes significant in this case. A physician's opinion was also taken who also emphasized the need for admission which was explained to the patient.

ASCERTAINING THE INDIVIDUALITY

After having a quick review of the pathos of scorpion poisoning the fact of scorpion venom producing **Violent Burning Pains** is known.

In our specific case, Numbness and loss of sensations is the chief presentation.

So after going through the pathophysiology of scorpion poisoning we conclude that violent burning pain is the main symptom which depicts the heightened sensitivity



to the extent that anaesthetics are injected. This case is in contrast to the general trend, wherein there is complete loss of sensitivity of nerves to the extent that it has lost its reactive power to generate sensations and pain. This explains the numbness with which patient has. This is the individualizing feature in this case.

ERECTING HOMOEOPATHIC TOTALITY

A/F Stings (Chapter- Skin-Synthesis repertory)

Anesthesia of parts (Chapter-Generals- Synthesis repertory)

Reaction want of (Chapter-Generals- Synthesis repertory)

Seat of action on Nerves.

Prescription- *Hydrocyanic-acid* 1M single dose

HYDROCYANIC-ACID

PATHOGENESIS: *Hydrocyanic-acid* or prussic acid acts on nerves, circulation (heart and respiration) and nerves. *Hydrocyanic-acid* is one of the deadliest and most rapidly acting poisons. It acts powerfully on the celiac ganglia, causing intestinal cramps and colic. Convulsions and paralysis are leading keynotes of the medicine.

EXTRACTS FROM HOMOEOPATHIC MATERIA MEDICA
Effects are sudden, spasms, collapse, strokes. Sinking sensation in epigastrium. Hysterical and epileptic convulsions. Cyanosis and collapse due to pulmonary condition. Stage of collapse, intense coldness and **lack of reaction**. Evacuations cease suddenly, sinks down unconscious or prolonged faints. Worse from full moon, suppressions, storms.

MANAGEMENT OF PATIENT: Administration of remedy was just a part of management of this case. Main aspect

of the case was monitoring of patient for earlier recognition of life threatening problems of scorpion evenomation like development of pulmonary edema, cardiovascular failure and so on. First 24 to 48 hours becomes very crucial in this case for development of full picture of scorpion poisoning.

For first 6 to 8 hours hourly monitoring of vitals was done. RS, CVS examination and checking for sensations of pain and touch. After 2 to 3 hours burning at the affected site decreased and all the fingers gradually started gaining sensations. After ascertaining that patient was stable, 2 hourly monitoring was done for next 24 hours.

Next morning patient had gained sensations all fingers and there was no burning pain and swelling at affected site.

CONCLUSIONS

- 1) IPD Facility was instrumental in management of cases of poisoning, as they require frequent monitoring to observe for the evolving complications.
- 2) Individualization is the heart of homoeopathy and should be practiced in all circumstances in acute, chronic or emergencies.
- 3) Case taking in acute and emergency is a skill that should be developed.
- 4) Knowledge of patho- physiology helps in determining normal from abnormal and usual from unusual. Thus has direct role in determining individuality of the case.
- 5) Repertory as a tool can be used only when one has conceptually grasped the case. This helps in quick prescribing.



Should your car break down, leaving you miles away from assistance, think of the paraplegic who would love the opportunity to take that walk.

Should you notice a new gray hair in the mirror, think of the cancer patient in chemotherapy who wishes she had hair to examine.