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Medical Uses of Snake Poison

Basheeruddin.Sk*

Department of Pharmaceutis, M S A J College of Pharmacy, Chennai-600119
E-mail: basheer.shaik1989@gmail.com,

Commentary Article

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Corresponding Author:Department of Pharmaceutis, M S A J College of Pharmacy,Chennai-600119; E-mail: basheer.shaik1989@gmail.com,

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INTRODUCTION

Poison it's a deadly secretion that is secreted by these creatures Snake, Scorpion, BEE, Spider and Rare Species of some Frogs additionally. Secretion and injecting[1], biting , forcing out regardless of the kind of cathartic of[2] poison global organization them is for self unconscious[3]process given by their Own. Some kind of poisons square measure used for civilization[4-10] chiefly secreted by snakes, scorpions etc. We square measure discussing concerning snake chiefly. Several of the snakes square measure non-poisonous however a number of them square measure toxic.Two sorts of toxic toxins they will inject with their fangs in U.S. Haemo-toxins and Neurotoxins ,haemo-toxins[11-13] square measure utterly breakdown and clots the blood, whereas neurotoxins square measureblocks the central nervous system



With the assistance of thosemechanism[15-18] of effective toxicity the medicine that are used for all times saving ar factory-made type their poison itself.

Key words: Poison, Venom, Toxin, Anti-Venom.

VENOM

Venom is one in every of typical complicated, mixed of as several as totally different peptides, enzymes, and toxins. Largely the venoms of snake speciesis totally different, they show totally different variations in various species of them itself [19.20].

Due to their nature they were take issue from their totally different organic process pressures, like totally different ancestry[21-25], prey, and environments with exploitation that venom.

CONSTITUENTS OF VENOM

• venom is that the secretion that is secreted by venomous creatures, that are synthesized and having in their body, those are venomous [26] glands. Most of the venoms are advanced mixture of variety of proteins, peptides, enzymes, toxins and non-protein [27] inclusions. Several of them are harmless [28], however some will turn out extremely toxic in bound levels. Snake venoms cause important mortality [29] and morbidity worldwide, and strike deadly [30] worry in various count of world population.

TOXIC EFFECTS

Toxic Effects of venom is modified within the kind of a life saved sort [31] suggests that it will destroy tumor cells. In keeping with its efficiency [32] and sort venom affects physique, totally different species have differing types of venom, that depends upon its species [33], geographical location, its environment, climate, age etc. within the season of WINTER [34] the poison are going to be in a very thick nature, whereas involves SUMMER [35] the poison are going to be less thickness it suggests that it will be hostel [36] a free flow, just in case of Monsoon [38] it is harmless up to an exact limit if eaten in liquid or crystal type owing to it contains totally anti-clotting proteins [39]. Production of toxicity is happens once it contacts blood [40]. Venom is obvious, viscous and clear liquid [41] with these options it will turn in to solid and as well as preserved for an extended time.

TYPE OF SNAKE VENOMS

There square measure primarily 3 kinds of venom in keeping with its effects.

1. Hemotoxic Venoms: It effects Cardio system and BLOOD [42].
2. Cytotoxic Venoms: Destroys the cellular sites and muscles primarily
3. Toxin Venoms: Blocks and harm entire system [43]

Types of toxins

Fasciculins:

These toxins attack cholinergic neurons. Because of this intermittent cramp is caused thereupon Death happens.

That kind of Poison is Found for the most part in venom [44-48] of mambas (*Dendroaspis* spp.) and a number of rattlesnakes (*Crotalus* spp.)

Dendrotoxins:

Dendro-toxins inhibit neurotransmissions [49] by interference the exchange of positive and negative ions across the cell membrane. So thereupon mechanism of venomous action winds up in dysfunction.

Mamba [50] snake will end up the on high of given result.

α -neurotoxins:

This is an oversized cluster of poisons [51], with over one hundred postsynaptic neurotoxins [52] having been known and sequenced. Symptom and dysfunction [53-57] caused to various individual bitten by hamadryad primarily, ocean snakes [58-62] conjointly turn out this kind of impact.

Phospholipases:

Phospholipase is associate degree protein that transforms the lipid molecule into a lysophospholipid (soap) ==> the new molecule [63-67] attracts and binds fat and ruptures cell membranes.

Snake example: Okinawan habu (*Trimeresurus flavoviridis*)

Cardiotoxins are parts that are specifically venomous to the guts. They bind to specific sites on the surface of muscle cells and cause change ==> the poison prevents muscular contraction [68-70]. These toxins might cause the guts to beat on an irregular basis or stop beating, inflicting death.

Snake example: mambas, and a few elapid snake species.

These are solely many of the protein-based medicines that are developed from venom [70-74]. With over 600 styles of venomous snakes, scientists are certain to notice a lot of uses [75-78] for the various snakes and toxins. And with drug firms finding it tougher to develop new medicine, this is often [79] positively headway into finding new medicines [80-83] to combat completely different diseases [84-86]. Venom is additionally proving to be terribly promising as a result of nontoxic versions of poisons are found to exist in venom. May venom proteins facilitate notice the cure to cancer [87] and different deadly diseases?Whereas scientists are still trying into the various styles of proteins and their uses, it looks quite attainable that new medicine of this kind are utilized in the close to future [88-90].

The Best opposing venom production lead by Commonwealth bodily fluid Laboratories in Melbourne [91]. Venom is forwarded from the Australian reptilian Park [92] to the laboratories wherever, when being processed, Here the creatingis Injection of venom into Percheronhorses .Over 250 horses participate within the anti-venom program, all living the lifetime of luxury. They bear tokenish stress throughout the immunization and extraction processes. Immunisation is sort of harmless, and extraction is as easy as donating blood for humans



The horses are given increasing doses of venom over an amount of your time till they need designed up adequate antibodies [93] to the venom. When this has occurred, antibodies are extracted from the blood, refined and reduced to a useable kind. The human tormented by snake envenomation are going to be given by the opposing venom took from the horse solely accepted accustomed treat. When injecting in to the various people blood stream antibodies offensive of antibodies withvenom takes place, they Neutralise its result. Dose of anti-venom given to a patient varies in line with the species answerable for the bite and, once it may be observed, the number of venom injected. Age and weight of the victim makes no distinction to the dose of opposing venom needed within the treatment.

PREPARATIONOF ANTIVENOM

Anti-venom area unit primarily 2 sorts
Mono-valent ,B. Polyvalent

Mono-valent area unit effective against one speciesvenom .Poly-valentarea unit effective against a spread of species, or many totally different species at identical time . The primary opposing venom for snakes referred to as Associate in Nursing anti-ophidic body fluid was developed in each Bothrops genera, furthermore as sure enough species of venomous spiders, scorpions, and frogs. Anti - venoms for therapeutic use area unit typically preserved as freeze-dried ampoules [94], however some area unit accessible solely in liquid kind and should be unbroken cold. They are not straight off inactivated by heat, however, therefore a minor gap within the cold chain isnot calamitous.

The majority of opposing venoms (including all snake opposing venoms) unit of measurement administered intravenously; but red back spider opposing venoms unit of measurement given intramuscularly. The contractor route has been questioned in some things as not uniformly effective.

Anti-venoms bind to and neutralize the venom, halting any hurt, but donot reverse hurt already done. Thus, they have to be compelled to be administered as presently as potential once the venom has been injected, but unit of measurement of some profit as long as venom is gift inside the body. Since the looks of opposing venoms, some bites that were previously invariably fatal became entirely rarely fatal on condition that the opposing venom is run in time.

Venom Evolution

Making medication from the venom itself, however, may be a fairly new plan. within the journal TOXICON its explicit that they report the supermolecule referred to as eristostatin, extracted from the venom of the Asian sand snake, helps people's immune systems fight skin cancer. Past studies have discovered that Eristostatin stops malignant melanoma cells colonising the liver [95] and lungs in mice, analysis works and tests on the on top of mechanism square measure still testing by Dr. Halley.

Medications derived from venom are in development for many decades. If we glance concerning Malayan viper, its accustomed treat hypertensive drug, Venom of mamba acts as powerful painkilling potential, and Extreme poison based within the North African's scorpion named death stalker has able to shown potential for treat neoplasm.

MEDICAL USES OF SNAKE POISON

. Heart attacks/ strokes

- These medication use proteins that dissolve blood clots and skinny the blood.
- Two medication are developed and used since 1998 to stop these diseases.
- The proteins have conjointly been used for those with coronary cardiopathy to breakdown plaque buildup within the arteries
- Different snakes are found to carry proteins that concentrate on differing types of cancers. One macromolecule, referred to as Crotoxin has been found within the South yankee rattler. The macromolecule looks notably drawn to cancer cells and has the flexibility to kill itself [96]. Scientists have an interest in understanding a lot of regarding this macromolecule and the way it is ready to latch on thus tightly to somatic cell receptors and people found on the surface of the brain.
- **Contortrostatin** is another sort of macromolecule found. It will the work of not attaching and stop those cancer cells from manufacturing signals that prompt new blood vessels to sprout and support the unfold of cancer. With the National Cancer Institute [97], this macromolecule has been used and developed into a drug that is presently being tested on animals. If productive, the compound are used on girls with carcinoma within the next step.
- A macromolecule referred to as Eristostatin [98-100] has been found within the Asian Sand snake that has been found to assist people's immune systems deflect skin cancer by stopping accomplished cells from colonizing the liver and lungs.

. Scaling Brain Disorders

- All brain cells have receptors that pass signals to the body to perform bound functions. Totally different diseases cause these receptors [101-103] to perform in AN abnormal manner.
- Proteins in venom utilized in fighting diseases like bronchial asthma [104-107] , Parkinson's un-wellness, Alzheimer's unwellness, and bound pain disorders.
- These medicine would work by sterilization the actions of those receptors in order that they are going back to functioning ordinarily.

Hannalgesin may be a drug derived victimization the venom found within the Ophiophagus-hannah. This drug is seemingly 20-200 times simpler than morphine [108] and might even be taken orally, as critical morphine that should be injected [109,110]. Clinical trials are set for later this year or early 2014.

CONCLUSION

Above mentioned toxic creature's poison and their poison's healthful use can helps the civilization in an exceedingly big selection, some case of diabetics, stroke of heart and neoplasm, cancer cells within the body

all area unit treated and cured by the venoms of them severally as snake, bee, spider & scorpion etc..., however these venoms area unit became anti-venoms through the method of protein mechanism in an exceedingly biotechnological process. Here the preparation of anti-venom method area unit done by injecting the antibodies in horse & sheep in the main. For this reason some those that all area unit allergic to horse and sheep are not to be meant to present anti-venom severally.

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