

## SNAKES, ENVIRONMENT, SOCIETY

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### Abstract

Snakes are the integral part of the Natural environment. Snake-bites pose challenge to the safe existence of the Serpentine progeny. Though poisonous snakes are not many and they are by nature peaceful creature yet popular belief system takes it for granted that, every snake-bite is fatal. This belief is a spectacular feature of urban life. Indiscriminate killing of snakes is practiced by the people. Many imaginative narratives are connected to the snake's habitat, lifestyle which cater to the rural mumbo-jumbo.

These are the tip of the iceberg. In a nutshell these lead to jeopardize Ecological balance. Indian traditional knowledge system suggests prevention and cure of snake-bite. In general rural milieu practice traditional medicinal system. They rarely kill snake to avenge their biting. Rather they leave the snake in the jungles. In some villages snakes are domesticated as the progeny of the serpentine goddess.

Present paper will try with the aid of secondary source-materials to focus on the reflections on snake - bite in Ayurveda and the need to impart refined traditional knowledge to the people in order to conserve the Serpentine species as well as maintain environmental balance.

**Keywords:** India, Snakes, Environment, Ayurveda, Indigenous Medicines

According to the Report of the WHO about 5 million snakebites occur each year. The number of death are reported within 81000- 138000. Besides envenoming lead to amputation and other permanent disabilities. Many snakebites go unreported. Inaccessibility to proper medical care due to various factors including remoteness, economic inability, treatment by illiterate people etc. lead to many deaths. In June 2017 WHO "added snakebite envenomings to its priority list of neglected tropical diseases (NTDs)". (<https://www.who.int/health-topics>)

A brief review of Indian traditional knowledge may be of help provided proper training being imparted to eligible persons especially in the remote areas to attend the people in crisis. They may apply this treatment as a supplementary with available anti-venom treatment.

The paper will include a brief discussion on the antidotes prescribed in the Carakasamhita, the prescriptions in the domain of Botanical resources, the practice of tribal medicine and rural awareness to protect environmental balance with special reference to West Bengal.

### THE CARAKASAMHITA

Ayurveda means the science of life. This knowledge consists of 'Etiology, Symptomatology and the knowledge of Therapeutics'—

“hetulingoushadhagyanom swasthyaturparayanam  
Trisutram saswatom punyam bubudhe yam pitamahah (24)”  
(Sharma & Dash, 2023, 21)

Carakasamhita is one of the greatest creations in the genre of Ayurveda. Mythology credits Brahma to be the propounder of Ayurveda. From him this knowledge transmitted to Daksha > Prajapati > the Asvins > Indra > Bharadwaja > Atreya > Punarvasu > Agnivesa. Atreya was described as iti-ha-smaha-bhagavan-atreya. According to the Colophon of the text on the advice of Atreya Agnivesh compiled the text. Caraka and Drdhabala redacted it. (Sharma & Dash, 2023, xxxv-xxxvi). It is clear that there was an 'uninterrupted transmission' of the knowledge of Ayurveda.

There is a mythological story which credits Seshnaga (Serpent God) being born in the family of a learned sage and redact Agnivesa's work and spread the knowledge among mankind for remedying their diseases. In the Atharvaveda there are slokas indicating the practice of medicine. The root of the word car means to move and it is said that 'Caraka propagated his knowledge and gave relief to patients by moving from place to place' (Sharma & Dash, 2023, xxxvii). The period of the compilation of the text is to all probability 100 BCE to 200 CE. There are eight Sanskrit commentaries of Carakasamhita beginning since 4<sup>th</sup> century A.D. to 20<sup>th</sup> century. Cakrapani was the renowned commentator of Carakasamhita (11<sup>th</sup> century A.D.). He was known as Caraka Caturana. (Sharma & Dash, 2023, xxxix). Interestingly Cakrapani's commentary won popularity and was translated in Persian, Arabic, Latin, Tibetan and Mongolian.

According to Ayurveda vata , pitta and kapha are the basic elements in human body.

“vayu pittam kaphaschoktwaha sharire doshosangrohah  
manasah punaruddishtah rajascha tam eba ca”(57)

“Pathogenic factors in the body are vayu,pitta and kapha while those in the mind are rajas and tamas” (Sharma & Dash,2023,41)

Maintenance of Balance of these three elements are the secret of good health. Good health helps man to attain the Purusharthas i.e. dharma, Artha, kama, moksha. Ayurveda added great importance to the mind too. It says

“ sariram sattwasangam ca byadhinamahsrayo matah  
Tatha sukhanam ,yogastu sukhanam karanam samah”(55)

“The body and mind constitute the substrata of diseases and happiness (i.e.positive health). Balanced utilization (of time,mental faculties and object of sense organs) is the cause of happiness. (Sharma & Dash, 2023, 40)

The medicines were prepared from animal origin, vegetable origin and metals. The scope of discussions were logical, wide and detailed. The moral aspects of treatment of diseases and application of medicines were strictly taken care of -----

“bhisagbubhushurmatimanatah swagunasampadi  
Param prayatnamatishthet pranadah syadyatha nrinam”(133)

“...the wise one who aspires to be a physician should make special efforts to maintain his (good) qualities so that he can be the life-giver to human beings” (Sharma & Dash, 2023, 60-1).

Roughly up to nineteenth century the practitioners of Ayurveda in Bengal were famous.However advent of Western medicinal system,lack of patronage etc.were the root causes of limited practice at present. The vaidyas of Kerala are renowned for their practice of Ayurveda and successful treatment.

In the chapter 23 of Carakasamhita bishchikitsa or treatment of poisoning are elaborately discussed. The topics are divided into 6 parts –namely

- 1.Mythological origin of poison
2. Properties of poison
- 3.Source of poison
- 4.The stages of virulence of poison
- 5.Signs and symptoms of poisoning
- 6.Therapeutic measures to counteract poisoning

Regarding the mythological origin of Visa (poison) the text described that, in the context of Samudramanathana (churning of ocean) in search of amrit (ambrosia) a ferocious looking person appeared prior to the production of amrit. Since the world became visanna (despaired) with his sight he was known as visa (poison).Lord Brahma deposited the poison in jangama (mobile) and sthabar (immobile) things. In our context of discussion snake falls among jangama category. According to the text since poison was originated in water therefore during rainy season it increases with increase of water. In general jangama visa produces --- “somnia, drowsiness, mental fatigue, burning sensation, inflammation, horripilation, oedema and diarrhoea.”(Sharma & Dash,2023,327)

Interestingly it was observed that,“the animal poison moves downwards whereas the vegetable poison moves upwards in the alimentary canal. Therefore, the animal - poison cures poisoning by vegetable-poison,and the poisoning caused by animal poison is cured by vegetable poison”.(Sharma & Dash, 2023, 327). However ,the discussions on each type of poison , its’ remedy were discussed in detail.

According to the text in human beings the manifestation of poisoning are divided in eight stages. Briefly, there are ten attributes of poison and it aggravates different elements of the body leading to death if not treated on time and with effective medication.

There is a list of twenty four therapeutic measures –

- “1.Recitation of mantras
- 2.Arista (tying an amulate impregnated with mantra or tying a bandage above the place of bite)
- 3.Utkartana (excision of the affected part)
4. Nispidana (squeezing out blood from the place of the bite)
5. Cusana (sucking out the poison)
6. Agni (cauterization)
7. Pariseka (affusion)
8. avagaha (bath with medicated water)
9. Rakta-mokshana (blood-letting)
10. Vamana (emesis)
11. Virechana (purgation)
12. Upadhana (application of medicine after making an incision over the scalp)
13. Hrdayavarnana (giving medicine to protect the heart)
14. Anjana (application of collyrium)
- 15.Nasya (inhalation of medical oil)
16. Dhuma (smoking therapy)

17. Leha (drugs in the form of linctus given for licking)
18. Ausadha (administration of anti-toxic drugs or wearing as an amulet)
19. Prasamana (sedatives)
20. Pratisarana (application of Alkalies)
21. Prativisa (administration of poisons as medicines to counteract the original poison)
22. Sanjna - samsthapana (administration of medicines for the restoration of consciousness)
23. Lepa (application of medicine in the form of a paste or ointment)
24. Mrta-sanjivani (measures for the revival of life of an apparently dead person)  
(Sharma & Dash, 2023, 335-6)

Before the spread of poison a venika (string or rope) should be tightly tied near the place of bite so that the poison does not spread.

The Therapeutic measures prove that the authors were substantially experienced and qualified Vaidyas. The snakes were classified by them into three major types, namely-darvikara, mandali and rajiman who caused aggravation of vayu, pitta and kapha respectively. There were other detailed divisions of the poisonous species. They described the severity of poison in accordance with the sex, age, tithi, nakshatra etc.

In Bengal the use of Botanical resources are popular. In this context the Chiranjib Banousodhi, a renowned voluminous research work by Ayurvedacharya Shivkali Bhattacharyay deserves special mention. He has simplified the use of Ayurvedic herbal medicines catering to the need of modern times. He has provided the photographs of the herbs along with its Chemical composition .

“nakuli tubara tikta katushancha tridoshonuut  
Bhogiluta-brischikakhu-bisjwara krimi-bronan”

And

“ nakuli jugalaong tiktong kotushancha tridoshonuut

Anak-bisbidhwanshi kinchit sresthon dwitiyakam”( Bhattacharya,2022,297)

These slokas refer to Sarpagandha and Gandha Nakuli --- two well known herbs rich in anti-poison attributes. These herbs belong to the Apocynaceae family. Sarpagandha's Botanical name is Rauwolfia serpentina while Gandha Nakuli is known as Rauwolfia tetraphyllia (Bhattacharya, 2022, 297). There are other effective herbs like Snuhi or Manasa which is Botanically known as Euphorbia neriifolia Linn (Bhattacharya, 2022, 196) Manasa herb is popularly worshipped in Bengal for protection from snake bite. Rudrajata is another important herb. Botanically it is known as Aristolochia indica Linn. (Bhattacharya, 2022, 15) It is used as antidote to snake venom. Interestingly the snakes leave the place with the smell of its root. The villagers keep the creeper in their house for protection from snakes.

Ethno-botany

This is “the study of how people of a particular culture and region make use of indigenous plants.” (Malathi et al, 2018, 63) Since time immemorial the rural people, the tribal people use the roots, leaves, fruits, juice, pastes etc. of plants, herbs, cactus, shrubs, trees as antidote to the snake bite. The Vaidyas also use the natural products. Interestingly these Botanical resources are sometimes part of their folk lore and cultural practice. According to the researchers “Medicinal plants are a major source of bio active compounds that help directly in the handling of ophidian envenomation, or ultimately, as the supplements to conservative serum therapy” (Malathi et al, 2018, 63). By way of positive approach to the medicinal practice of the tribal communities, understanding of their points of view as well as the underlying scientific truth, research and proper documentation many important antidotes may be discovered and in the long run may be of great use in emergency situation of endangered life. Conservation and research on the Ethno-botanical plants are necessary. Increase of population, lack of awareness of environmental balance, global climate change, deforestation and extreme greed of man are some of the elements leading towards the extinction of natural resources.

All the snake bites are not fatal. There is an evil tendency among the common people to kill and burn the snake. This is a wrong practice and detrimental to the ecological balance in agricultural regions. In many villages the snake is kept within an earthen pot and freed in the jungles. In Carakasamhita it is advised “ One should move about with an umbrella during the daytime, and with a rattling stick in hand at night so that with their shade and sound respectively, the snakes get frightened and go away (without biting the person)”. Added to this it was suggested to wear some special jewels which are antidotes of poisons, talisman or amulet containing herbs which are antidotes of poisons, “keeping of (domesticating) birds like Sarika, krauncha, peacock, swan and parrots is also useful to overcome poisons” (Sharma & Dash, 2023, 383-4). The widespread practice of the worship of Manasa, the goddess of snakes, worship of cactus Manasa also indicate at the folk awareness of the conservation of nature and natural animals.

#### ACKNOWLEDGEMENT:

The author is grateful to Prof, Archana Banerjee, Surendra Nath College and Prof. Subrata Banik, Bijoy Krishna Girls' College.

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