



## *Oothu Chikitsa (Blowing Therapy)-A Review on Crisis Management in Snake Bites*

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### ABSTRACT:

**Background:** Snake bite management is one of the perplexing tasks in present day due to shortage of envenomation therapy. It is an emergency condition requiring quick acting remedy for different symptoms. *Agada Tantra* (toxicology) is one such branch of ayurveda which deals with the treatment principles of envenomation by animal or plant. Few empirical textbooks on *Visha chikithsa* of Kerala mention a therapeutic procedure '*Oothu chikitsa*' (blowing therapy) to manage crisis of snake bite.

**Source:** Literary review from the classical text.

**Indications:** Classically the procedure is employed in snake bite victim presenting with diminished sensorium to both verbal and physical stimuli, by blowing a combination of drugs into the ears and over the scalp. This practice is still alive as a legacy at door-step of traditional practitioners of Kerala.

**Conclusion:** *Oothu chikitsa* is feasible and effective in condition where patient is losing consciousness due to envenomation. These practices need to be explored and understood to improvise the management of envenomation and uphold its importance.

**Key words:** *Visha chikitsa*, *Oothu chikitsa*, Snake envenomation, Traditional medicine, Kerala.

## INTRODUCTION

According to the World Health Organisation (WHO) about 5.4 million snake bites occur each year, resulting in 1.8 to 2.7 million cases of envenoming (poisoning from snake bites) as on May 2021. Snake bite management has been a challenge in most of the developing countries accounting to many deaths<sup>1,2</sup>

Despite such eye-catching statistics and underrated reporting of snake bite from rural zones, snakebite remains an under estimated cause of accidental death in modern India. Most of the rural population depends on the traditional healers for such emergency condition, for which the concern is raised as delay in availing scientific



treatment. However, there are also references for use of medicinal plants in treating such cases successfully. These parallel findings have their contextual importance if seen rationally.<sup>3,4,5</sup>

Conventional medicine vouches on Anti-venom therapy which comes with its own set of drawbacks, recent understanding of its questionable effectiveness and scarcity of it also makes the situation find an alternate medicine.<sup>6,7,8</sup> *Agada Tantra* a branch of Ayurveda deals with different sources, types and modalities for the management of poisoning conditions including snake bites. It has elaborated 24 algorithmic modalities<sup>9</sup> for treating venomous conditions. During evolution new approaches were adopted and among them *Oothu Chikitsa* was one. This therapeutic procedure was in and now practised by *Visha vaidya* in Kerala. Elapsing years have made them to pen down this procedure as one among other treatments for snake bite envenomation, who should be applauded by keeping the ancient wisdom undescended which now requires conventional language to put across modern society<sup>10</sup>.

Apart, from using treatment mentioned in the *Samhitas*, they follow many unique treatments which are known to local *Visha vaidyas*, since ages which are mentioned in Malayalam *Visha* text book and are passed from generation to generation in the family of *Visha vaidyas*. Many *Visha vaidya* families in Kerala are practicing *Oothu chikitsa*<sup>10</sup>.

## MATERIALS AND METHODS:

Literary review from the classical text *Visha vaidya sarasamuchaya*, *visha Vaidya Jyotsnika* a treatise on *Agada Tantra* principles written by C.K Namboothiri<sup>11</sup> have mentioned a very unique method of treatment in snake bite cases called as *Oothu* or *Oothu chikitsa* (Blowing therapy)<sup>12</sup>

### **Oota/ Oothu chikitsa:**

This is a procedure of blowing medicines into the ears and over the scalp of a patient who is in the subconscious state. *Oothu chikitsa* is typically done in snake bite poisoning as an *Atyayika chikitsa* (emergency management)

### **Indications:**

A *Visha vaidya* mainly employs this treatment modality when any or all of the following symptoms appears in a snakebite victim like delay in response to verbal and physical stimuli, drowsiness, drooping of the eyes, and numbness over the tongue, mouth and scalp, pain all over the body, paralysis of jaw, tongue, larynx and neck, headache, dizziness, vertigo, excess salivation, formation

of mucous and fluids in the chest, eyes, etc.<sup>12</sup>

### **Procedure:**

*Oothu chikitsa* is an effective emergency management. Drugs namely *Shunti* (*Zingiber officinale*), *Maricha* (*Piper nigrum*), *Dusparsha* (*Tragia involucrata*), *Ishwari* (*Aristolochia indica*)<sup>11</sup> are taken in equal quantity, cut into small pieces. This is then chewed by three people who are devoid of any intoxication or have not consumed any *Teekshna dravyas* (high potency drugs) similar to *visha*. Patient is made to sit comfortably on a chair and two of the attendees stand near the ears of the patient and one at the back. After thorough chewing of the drugs the air should be blown into the ears and *murdhni* (Centre portion of the scalp-top of the head) neither too hard nor too slow synchronously. This procedure can be done up to 150 times. If the condition is improving then the procedure can be repeated for more number of times. Care should be taken not to spit out the medicines kept in the mouth<sup>13,14</sup>.

This *Oothu chikitsa* is very effective against *Vata* and *Kapha* symptoms that are produced by *Visha* (poison) in the first three *Dhatus* (major structural components of the body). The drugs used in *Oothu chikitsa* with its probable action are described in table no 1.

## OBSERVATION

*Oothu chikitsa* was done in conditions of heaviness of head and drowsiness in a patient with viper snake bite. This procedure was done by the authors under the guidance of Vd. Shri Bramhadattan Namboodiri, at Ullanoor Mana, Trissur dist., Kerala.

Vd. Shri Bramhadattan Namboodiri has been practising *visha chikitsa* since many years and has successfully treated many patients of envenomation. This method of treatment was done in one such case and a detail of it is as follows. The patient was in his subconscious mind for which three of us stood on either side of the patient and one on the backside of the chair on which the patient was seated. One attender was made to hold the head of the patient. Other three of us chew the three *dravyas* (*Shunti*, *Marica*, *Ishvari*) in our mouth until it was fine powder and blew onto the scalp (person standing behind the patient) and to the ears (persons standing on either side). After blowing around 100 times the patient showed signs of consciousness by moving his limbs and fingers. He was given other symptomatic treatments immediately by which he survived the poisonous bite.

This practice is done widely in Kerala state by the *vaidyas*. It is seen done in cases of snake bite, where we need to buy

time to treat the patient. *Oothu chikitsa* is done immediately when a person is in his semi-consciousness. Few reviews mentioning the reference of *oothu chikitsa* in snake bites has been told in *samanya visha chikitsa* by visha vaidhya jyotsnika.<sup>14</sup>

## DISCUSSION

According to charaka, there are instances explained where the life is deteriorating and have told methods to resuscitate a baby after delivery and brought back to life. Similarly during envenomation this *chikitsa* is done either to resuscitate a person or to buy time by bringing the person to consciousness. He says that the child is awakened by the following few techniques such as gently striking the stones near the root of the ear, and sprinkling of cold or hot water over its face which removes the obstruction in the way of *prana* and re-establishes consciousness and life.<sup>15</sup>

Relation between ear and Autonomous nervous system and heart: a study done in chain saw workers showed that those exposed to too much noise and vibrations showed negative effects on the autonomous nervous system. It was also seen that the vibrations in the ear due to chain saw made changes in the internal factors of the blood vessels and thus the heart too.<sup>16</sup>

A method said to allow non-invasive cervical vagus nerve stimulation through the skin of the neck has been developed and is under investigation in patients with cluster headache<sup>17</sup> and migraine<sup>18</sup>. This current study shows a relation between the vagus nerve stimulation in the ear and its connection with the heart functions<sup>19</sup>. This may be the reason why *Oothu chikitsa* helps us buy time during poisoning treatment by keeping the heart functions low and tumbling the speed of spread of poison in circulation.

One more case study has showed interrelation between the ear and heart through the vagus nerve. The vagus nerve innervates the sinoatrial (SA) node and atrioventricular (AV) node in the heart. The auricular nerve branch of the vagus nerve, also known as Arnold's or Alderman's nerve, supplies the inner portion of the external ear.<sup>20</sup> Study shows that vagus nerve stimulation has therapeutic potential for myocardial infarction-induced ventricular arrhythmias. In this study it was seen that the vagus nerve stimulation was able to reverse hypersympathetic nerve activity-induced ventricular electrophysiological changes and subdue the occurrence of ventricular fibrillation.<sup>21</sup>

Action of *Shunti*: *Shunti* is a common drug used in many conditions among which one is in snake bites. A study confirms use of *Shunti* to treat respiratory diseases or as an

antidote for snake bite. It is also considered a strong aphrodisiac<sup>22</sup>. *Shunthi* reduces blood pressure and cardiac hypertrophy by activating PPAR receptors on heart, blood vessels and inhibiting the entry of calcium ions into the cell.<sup>23</sup>

Action of *Marica*: *Marica* has an effect on lowering blood pressure possibly through calcium channel blockage.<sup>24</sup> *Marica* is used by many *Vaidyas* (physician) and folklore practitioners all over the country in snake bite management. Its seed powder mixed with butter is given orally against snakebites another combination of Flower paste with ghee is given orally in *sarpa visha* (snake poison).<sup>25</sup> Piper is said to be an effective drug used to neutralize the snake venom.<sup>26</sup>

Action of *Dusparsha*: Studies show that decoction of leaves of *Tragia involucrata* and *Aristolochia indica* is used to cure scorpion, insect and snake bites.<sup>27,28</sup>

Action of *Ishwari*: *Ishwari* is said to be an antidote in snake poisoning. Direct reference is given in our classics regarding the same. Some studies depict use of *Ishwari* in many tribal clans as an antidote which is used in the following way; Root powder is snuffed; root juice is given orally and root paste applied locally. This drug proved effective against lethal action of snake venom.<sup>29,30</sup>

*Oothu chikitsa* is done with the use of *Teekshna dravyas*. These drugs arouse the senses by acting on *Manovaha strotas* (structural or functional channels of mind) thus aiding in retrieval of consciousness<sup>12</sup>. By analysing the action of the four drugs used in *Oothu chikitsa* it is clear that it has evident role in treating the snake bite patients either in the form of powder externally and internally due to its *Teekshna guna* and other pharmacological actions as in anti-inflammatory, analgesic, antidote and anti-oxidant activities.

## CONCLUSION:

*Viṣha chikitsā* (toxicology) is given upmost position among the branches of medicine owing to its need for emergency management. The practice of managing snake bite cases with Ayurvedic drugs is on the decrease these days due to misinformation and lack of research. There are many traditional **vaidyas** who are successfully treating snake bite cases using these medicines and practices even this day. There are a number of books written in regional languages on Ayurveda which needs to be translated and understood to improvise the branch and uphold its importance. *Oothu* is one among them which is used in snake bite cases when the patient is falling unconscious. It

is an emergency treatment which is very handy and can be practiced with minimal requirement.

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Table No. 1: Drugs used in *oothu chikitsa* with its action on snake bites.

Sl.no	Drugs used	Latin name	Action
1.	<i>Shunti</i>	<i>Zingiber officinale</i>	Anti-oxidant, anti-inflammatory <sup>23</sup> , neuro-protective, cardio-protective <sup>24</sup>
2.	<i>Maricha</i>	<i>Piper nigrum</i>	Anti-oxidant, Analgesic and Anti -inflammatory activity <sup>25,26</sup>
3.	<i>Dusparsha</i>	<i>Tragia involucrate</i>	Antidote in snake and other insect bites <sup>28</sup>
4.	<i>Ishwari</i>	<i>Aristolochia indica</i>	Analgesic and antioxidant <sup>29</sup> , activity anti-inflammatory, mast cell stabilizing activity <sup>30</sup> .