

LITERATURE STUDY OF TOXIC HERBS IN SUSHRUT SAMHITA

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ABSTRACT

Ayurveda states that the universe is composed of *Panchmahabhutas* (five Basic elements) Including whole animal kingdom, plant kingdom as well as minerals also. These dravyas are classified on the basis of their beneficial and harmful effects on human body. *Agad Tantra* (toxicology) is a special branch of *Ashtang Ayurveda* (8branches of *Ayurveda*) which specially deals with the study of poisonous dravyas, their toxic effects and their management in detail. This article is aimed to explore the *Visha* (poison) and their toxic part specially stated in *Sushruta Samhita*. *Sushruta Samhita* emphasizes on the *Vishakta Anga* (toxic part) of the poisonous herbs. This literature review will help the learners to identify the toxicity some of the routinely used herbs which are not included in *Mahavisha* and *Upvisha*.

KEYWORDS:- *Agad Tantra, Vishakta Anga, Mahavisha, Upvisha.*

INTRODUCTION

Agad Tantra is the science which deals with the study of poisons, their action, detection and treatment. *Agadtantra* is one of the branch of the branch of *Ashtang Ayurveda* which deals with natural poison as well as artificial toxins their harmful effects and treatment also.^[1] The word *Visha* is derived from the root '*Vis*' (*Vyaptau*) having '*Kt*' proportion which. Means to

encompass or to get fully pervaded or to get occupied. Thus the one which pervades the whole body immediately after ingestion is called as *Visha*¹. A substance which causes sadness to the world is also called as *Visha*.^[2]

Hence *Visha Dravya* (poisonous substance) may be defined as a substance which is life threatening or produces many other complications and brings about sadness.

In *Charak Samhita* and *Sushruta Samhita* ten *Gunas* (Properties of poison) of *Vishas* are described, out of these nine common *gunas* are *Laghu* (light), *Ruksha*(rough), *Ushana*(hot), *Sukshma*(minute), *Ashukari*(quick acting), *Vyavayi*(quick absorbing), *Vikasi*(depressant) and *Vishada*(non-slimy),where as *Apaaki*(not digested) *guna* is stated in *Sushruta Samhita*, whereas *Anirdeshya Ras*(not having any taste) is being stated in *Charak Samhita*.^[3]

Action of *Visha* i.e. poison in context of its *gunas*, *Vega Lakshanas* (poisoning impulses) and *Dhatugata Lakshanas*(within body tissues) is very elaborately explained³ in Ayurvedic texts. Authors of different classical texts of Ayurveda described their view regarding the types, properties, actions of *Visha Dravya* and their management, in a scattered manner. In the present article an attempt has been made to understand *Visha*, their poisonous parts, types and properties in Ayurvedic parlance by presenting them in a single place. *Sushrut samhita* is a great treatise in Ayurveda where ‘Toxic Herbs’ are classified on the basis of the part of plants containing toxic ingredients. There are almost 47 herbs stated as toxic herbs i.e. ‘*Sthavar Vish*’ (plant origin) excluding *Dhatuvish*(metal poison). An enigma of bimolecular equivalence of human and herb, in pharmacological application, is creditably being cherished with conceptual and scientific foundation in Ayurveda.

This literature study is aimed to be find out or identify how many of toxic herbs are actually existing now a days or being identified. *Brahatryi* and *Nighuntu Granth* have elaborately stated the toxic herbs. But *Sushrut Samhita* has specially described Toxic plants, indentified on the basis of their toxic part i.e. root, stem, leaf etc.^[4] Total 53 toxic herb are stated in *Sushrut Samhita* where as actually 47 different herbs are described excluding the repetitions. *Karambha*, *Mahakarambha*, *Karghat* and *Nanadan* are repeated in more than one groups. Eg- *Karaghta* is included in *Mulavish*(root poison), & *Twakasar Niryas* (extract of bark) *Visha*. Similarly *Karambha* is included under *Patra Vish*(leaf), *Phala Vish*(fruit), *Pushpa Vish*(flower), *Twaksar vish*(latex of bark) etc. and *Mahakarambha* is also listed under *Patra vish* as well as *Pushpa vish*. The toxic herbs classified on the basis of toxic part in *Sushruta*

Samhita are enlisted as follows-

Table no. 1: Classification of toxic herbs according to their *Vishakta Anga* (toxic part).^[5]

<i>Mula Visha</i> (Rootpoison)	<i>Patra Visha</i> (Leaves poison)	<i>Phala Visha</i> (Fruit) Poison	<i>Pushpa Visha</i> (Flower) Poison	<i>Twakasar</i> <i>Niryas Visha</i> (Bark, heartwood& resin) Poison	<i>Kshir Visha</i> (Poison)	<i>KandaVisha</i> (Tuberpoison)
<i>Klitaka</i>	<i>Vishapaprika</i>	<i>Kumudvati</i>	<i>Vetra</i>	<i>Antrapachaka</i>	<i>Kumudaghni</i>	<i>Kalakut</i>
<i>shwamar</i>	<i>Lamba</i>	<i>Venuka</i>	<i>Kadambha</i>	<i>Kartariya</i>	<i>Snuhi</i>	<i>Vatdsanabha</i>
<i>Gunja</i>	<i>Varadharuka</i>	<i>Karambha</i>	<i>Vallija</i>	<i>Sauriyaka</i>	<i>Jalakasirini</i>	<i>Sarshapa</i>
<i>ugandha</i>	<i>Karambha*</i>	<i>Mahakarambha*</i>	<i>Karambha*</i>	<i>Karaghat</i>		<i>Palaka</i>
<i>Gargarka</i>	<i>Mahakarambh</i>	<i>Karkotaka*</i>	<i>Mahakarmbha*</i>	<i>Karambha*</i>		<i>Kardam</i>
<i>Karaghat*</i>		<i>Renuka</i>		<i>Nandan*</i>		<i>Vairataka</i>
<i>Vidyutshikha</i>		<i>Khadyotaka</i>		<i>Varataka</i>		<i>Mustaka</i>
<i>Vijya</i>		<i>Charmari</i>				<i>Prapaundarika</i>
		<i>Ibhagandha</i>				<i>Mulakaa</i>
		<i>Sarpaghati</i>				<i>Shrugivish</i>
		<i>Nandan*</i>				<i>Halahal</i>
		<i>Sarpaka</i>				<i>Mahavisha</i>
						<i>Karkataka</i>

Implied with modern scientific approach and analytical studies, toxicology has expanded tremendously. Although plant kingdom has remained the domain of excellence for Ayurveda.

Nevertheless, all Ayurvedic text have admired the some or other toxic herbs as a medicine also example, *Vatsanabha*(as *Jwaraghana*(antipyretic). In this view these toxic herbs described in *Sushrut Samhita* carry the doctrines of Toxicological aspects of Ayurvedic plants. Ancient mode of identifying the herbs was described with it's *Paryay* (synonyms) i.e. which describe some of its Pharmacological or taxonomical characters- example- *Ashwamar*, a herb which is made toxic for *Ashwa*(horse). These toxic herbs carry a great controversy regarding their identification. The same synonyms could be traced from other texts for the plant, which is popular by some other name.

The comprehensive study of literature available in Ayurveda and modern texts will certainly give the direction to identify those toxic herbs of *Sushrut Samhita* with available references.

Table no. 2: Identified toxic herbs in sushrut samhita.

Toxic herb in Sushrut Samhita	Ayurvedic Classification	In Modern text	References	Toxic Ingredients
Aswamar (Karveer) (Nerium Iridium)	Mula vish	Cardiac poison	Bha. Ni guduchyadi varg 82 ^[6]	Nerin Olendrin
Gunja	Mula Visha	Vegetable Imitant Poison	Bha.Ni dhatwadi varg. Upavish 206 ^[7]	Abrin
Vidyut shika (Kangali)	Mula Visha	Organic Lamitant Poison	Bha.Pra.Ni guduuchyadi Varga80 ^[8]	Colcochine superbin
Vijaya (Bhanga) Cannbis Sativa)	Mula Vish	Spinal poison	Bha.Pra.Ni.Haritakyadi Varga 233 ^[9]	Colcochine superbin
Snuhi Euphorbia Nerrifolia	Kishrivisha	Organic Poison	Bha.Ni Guduchyadi Varga 73	Euphorbion
Vatsanbha	Kandvisha	Cardiac Poison	Cha.Ni.23/11 ^[10]	—
Palak Plumbago Rosea	Kanadavisha	Organic Imitant Poison	Raj.Ni Pipalyadi Varga 43/54 ^[11]	Calotoxin Calotropin Colatrin

Above stated herbs have clear references for being identified as toxic herbs from ancient times.

Some toxic herbs which were included in *Sushrutokta Sthawar Vish* could be identified with critical review of Ayurveda and modern literature references. Considering the synonyms as well as toxic ingredients which are present within those herbs, some controversial toxic herbs can be listed as follows.

Table no. 3: List of controversial herbs.

Name of Herb	Reference from text	Sanskrit Name (Latin Name)	Active Principle	Toxic Effect
KLeetak	Su.su.18/34 Bha. Ni Haritkyadi Varga 145	Yasthimadhu ^[12] ^[13]	Glyeyrrhizic Acid Aavomides	Hypertension Hypochalemia Oedema Altered Cardiac
Sugandha	Rani.Mulkadhi varga 93	Sarpagandha Rauwdlifia serpentinea	Reserpine	Drowsiness, depression nausea, diarrohea Bradicardia Sexual dysntenction

Karaghata	Glossary of vegetable drugs in Bruhadtruyi A.N.V. 34/84	Madunfal Randia Dumentorium	Saponin Valenric Acid	Emetic
Vishapatrika	Yog Rotamkar Vishaniddn -3	Devdali Dutta echinata	Eshinatin Saponin	Vomiting, Diarrhiza Abortion
Lamba	Su.Shi 19/63	Katutumbi Laageneria Vulgaris	Elglacion B glucodised	Emetic
Karambha	A.H.Su.15/24 ^[13]	Uttumurani	Calctine	Purgative
		Pregularia Extensa	Calotropoo	
Karkotak	Ra.Ni Guduchyadi Varga 63	Karkotaki Manorolica Dioica	Cucurbuticin	Emetic
Ebhagandha	Vachaspatayam Vel.1	Nogadanti Croton Oblongitolia	-	In large dose acts like coroton Tiglium
Kadamba	Bha.ni Pushpa Varga 36	Kadamba Anthecephalus Kadamba	Cinchotanic acid Cardiac Glucoseide Kadambin	Cardiac depressant
Vallija	Ra.ni Pipalyadi Varga 30 ^[14]	Maricha Piper Nigrum	Piperine Peperidne Peperside P-Sitasterol	Aborlificant
Antrapachak	Bha Ni Haritkyadi Varga	Antrapachak Mularasan Tylophora Asthamatica	Tylophorine	Emetics and arastic purgative in large doses
Karaghat	A.H.U 38/34	Madan Phal Randia Damatorium	Sopanin Valenric Acid	Emetic

DISCUSSION

Toxic herbs included in *Sushrut Samhita* should be treated as the plants with toxic or adverse effects. There remains possibility that these plants may be in use with another popular name example, *Sugandha* as *Sarpagandha*.

Over the counter consumption of Ayurvedic medicine, irrespective of being explained the hazards of long term use is an another aspect of applies pharmacology level therefore quality control of Ayurvedic products need the implication of detail literature review. Also the literature in *Sushrut Samhita* about toxic herbs, is an essence of Ayurvedic toxicology from view of *Agadtantra*. The honest efforts are brought through this article to enlight the glimpses of literature measure.

Toxic herbs described in sushruta samhita can be discussed in following phases

- 1) Toxic herbs confirmed and identified on the basis of literature references.
- 2) Controversial and unidentified toxic herbs

1) Identified toxic herbs

From *Mula Vish*, *Ashwamar*, *Gunja*, *Vidyutshikha* and *Vijaya* constitute various therapeutic preparations. In latex poison a well known poisonous drug '*Snuhi*' is included. The 'Tuber poisons' are *Vatsanabh* and *Palak*. What is the specific references from *Rajnighantu* have noted *Palak* as *Chitrak*.

2) Discussion on controversial and unidentified herbs

Dalhan commentary on *Sushrut Samhita* mentions *Kleetak* as *Yashtimadhu*.^[15] Glycyrrhizic acid in this plant is pharmacological responsible for Oedema, Hypertension, abnormal muscle contractilities, Hypokalemia.^[16] Vallij found as synonym for *Marich* i.e. *Pyper Nigrum*. This fruit contains volatile oil and alkaloids which are gastric irritants.^[17]

Table 3 gives references and toxicological properties of some controversial plants. The description of species of *Vatsanabha Mustak*, *Sarshapa* along with the detailed toxic symptoms described in *Rasashastra Granthas* suggest that those drugs were very well identified in the past.

The description of identified toxic herbs, as well as the drugs which show some toxic effects, is well elaborated in the paper content but, some of herbs still be remain as unidentified. About the *Kanda Vish*, their toxic effects are already stated in various *Nighantu*. They seem to be the different species of *Aconitum*.

In terms of Synonyms of the toxic herbs, a general inference suggests that they are implied to explain the specific property in concern reference.

Table no. 4: Numerical presentation of toxic herbs.

Type of poison (Toxic herbs)	Total no of poisons (Toxic herbs)	Herbs Identified	Herbs contravertial	Herbs unidentified
<i>Mulavish</i>	8	4	4	-
<i>Patravisha</i>	5	-	4	1
<i>Phalavisha</i>	12	-	5	7
<i>Pushpavisha</i>	5	-	5	-
<i>Twaksarniryas vish</i>	7	-	4	3
<i>Kshirvish</i>	3	1	1	1
<i>Kanda vish</i>	13	2	1	10

CONCLUSION

‘*Sthavarvisha Pratishheda*’ *Adhya* in *Kalpasthan* of *Sushruta Samhita* (Su.Ka. 2) has conserved a valuable literature object. This, literature research paper has resulted in these conclusions.

1. *Sushrut Samhita* undoubty deserves the credit of describing ‘Toxic Herbs’ in well arranged manners, according the part of herbs containing toxic ingredients.
2. *Mahavisha* and *Kandavisha* are predominantly followed, while the other herbs accure in scattered references in preceding texts.
3. The detail description of species and external characters of toxic herbs points out forwards the lost literature in many consequences, which need to be classified.
4. A herb with toxic property of some part exhibits miraculous effect when purified properly or other part of the herb is used. Its administration with expertise, if followed through proper channels, may be proved of utmost importance. In long term use, special attention should be provided to acute or chronic o preparations containing toxic herbs.

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