



ANCIENT METHODS OF DETECTION OF POISONING IN DIFFERENT CONDITIONS – A REVIEW

**Dr. Arvind Charandas Tumram¹, Dr. Hemraj Konduji Bhiogade², Dr. Shama S. Suryawanshi³,
Dr. Sushil Vilas Chawre⁴, Dr. Pravin Kumar Rathod⁵,**

1. Assistant Professor, Dept of Agadtantra, Govt. Ayurved College, Nagpur
2. Associate Professor, Dept of Agadtantra, Govt. Ayurved College, Nagpur
3. Professor, Dept of Agadtantra, Govt. Ayurved College, Nagpur
4. Assistant Professor, Dept. of Kayachikitsa, Govt. Ayurved College, Nagpur
5. PG (Scholar) Dept of Agadtantra, Govt. Ayurved College, Nagpur

Article Received on	-	18/01/2016
Article Revised on	-	23/03/2016
Article Accepted on	-	24/04/2016

All articles published in IJPAAM are peer-reviewed and can be downloaded, printed and distributed freely for non commercial purpose (see copyright notice below).

© 2015: IJPAAM

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by-nc-nd/3.0/deed.en_US), which permits unrestricted non commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract

In ancient time poisoning was one of the important methods of killing enemies. This was very common among the kings and wealthy persons. In ancient time the poison used to be administered through food, drinks, cosmetics etc. apart from this there were some other conditions like contaminated air, water, earth and *vishakanya* which were poisonous and used to be detected by their signs & symptoms just like *Vishjasta Bhumi* (poisoned earth), *Vishjasta Vayu* (poisoned air), *Vishjasta Jal* (poisoned water), *Vishakannya* (poisonous women) etc. Hence, it was very necessary to examine all the food materials and tools of our surrounding. So that time some methods had been developed to detect the poisoning. In ancient time, it was duty of the physician to protect health of king and so the kings always used to appoint an efficient physician to protect him from the danger of poisoning. In *Ayurved* various methods of detection of poisoning have been described and it can be divided in major six groups and most of the poisoning can be detected with help of their signs and symptoms. In this modern era various costly methods have been given to detect the poisoning. So this study will prove to be helpful for those physicians who are deprived from recent modern equipments which are used to detect the poisoning.

Key Words: *Poison, Detection, Method, Pariksha, Padhhati, Examination*

INTRODUCTION

Major two types of methods of detection of poison have been mentioned in this modern era. These are Qualitative and Quantitative methods. But in ancient time there were no such types of methods to detect the poisoning. In ancient time there were some different methods they used to apply to detect the poisoning. With the help of typical signs and symptoms they were getting idea whether is it *Sthawar Visha* (vegetable/ metal poison) or *Jangam Visha* (poison due to animal bite). In ancient time *Visha Kanya* (Poisoned women) was used as a weapon to kill the King and wealthy person.

The method of making of *Visha Kanya* (Poisoned women) by administering small quantities of poison daily even from the day of birth, they would make the body of a woman poisonous. And *Visha Kanya* can be known by typical signs & symptoms. Modern science has given some methods or technique to detect poison after death and such type of method has been stated also in *Kautilya Arthashastra*.

Today lots of doctors are providing their services in remote areas and government still not able to provide all equipments and instruments which is necessary to detect poison. So this study may be helpful for those physicians who are deprived from recent modern equipments which are used to detect the poisoning.

Address for Correspondence:

Dr. A.T.Tumram

Assistant Professor,
Department of Agadtantra,
Government Ayurvedic College,
Nagpur, Maharashtra, India 440024
Mobile no- 9923203002
Email: atumram@gmail.com

AIM AND OBJECTIVES:-

1. To search and re-evaluate the knowledge of methods of detection of poisoning in the various scriptures of *Ayurved*.
2. To get the knowledge of methods of detection of poisoning of ancient era in single literature through the collection of various text materials of *Ayurved* scriptures and text books.

MATERIAL AND METHODS:

This article is based on a review of *Ayurved* scriptures and text books related to the subject. Related materials on methods of detection of poison and other relevant topics have been collected. The main basic *Ayurved Texts Charak Samhita, Sushruta Samhita, Astang Sangraha, Kautilya Arthashathra* and available commentaries on these are used for review. In this study, methods of detection of poisoning have been classified in major six groups by collection of scattered material of ancient *Ayurved* scriptures. Some types of methods of detection of poison have been presented in tabulation form to understand easily.

Visha Parikshan Padhhati (methods of detection of poison):

In ancient time king used to be killed by food mixed with poison, so when food suspected as poison, so it should be tested. In ancient scriptures of *Ayurved* various methods of detection of poison have been

described and it can be divided in major six groups-

I) Bhoutic Parikshan (Physical Characteristics)

(II) *Agni Pariksha* (Examination on fire)

(III) *Lakshananusar Parikshan* (According to Signs and Symptoms)

(a) *Lakshana of Sthavar & Jangam Visha* (Signs & Symptoms of vegetable & animal poison)

(b) Signs & symptoms according to mode of administration

(c) Signs & symptoms according to site of poison

(d) Signs & symptoms according to poisoned material or substance

(e) *Visajusta Bhumi* (poisoned land)

(f) *Visajusta Jala* (poisoned water)

(g) *Visajusta Vayu* (poisoned air)

(h) Poisoned Fooder & Food

(i) Poisoned Tree

(h) *Visha Kanya* (Poisoned women)

(i) *Gara Visha & Dushi Visha*

(IV) *Panchabhautic Pariksha of Visha*

(V) Examination on Animal / Birds

(VI) *Ashumrut parikshan* (Examination on dead body)

***Bhoutic Parikshan* (Physical Characteristics):**

***Visajusta Anna* (Characteristics of poisonous food):** Foods (Vegetables, pulses, rice, meat etc.) which would flow naturally cease to flow when mixed with

poison, require long time to cook; cooked ones become stale, losing their (good) fumes and becomes hard; undergo change in respect of their normal *colour, smell, taste, and aroma*, become very moist and appear to be full of *glistening* particles.^[1,2]

(a) *Condiments* mixed with poison become dry very quickly. ^[3] (b) The *fumes* coming out of poisoned food or during boiling will be dark coloured, black or blue like neck of peacock). ^[4] (c) The *image* of the observer in water will be distorted with less or more of the (natural) features or images might not appear at all. ^[3] (d) Accumulation of *foam* appearance of dividing lines of stripe, threads and bubbles show up. ^[3] (e) In those which have predominance of salt, lines of foam appear especially. And such signs indicate towards the poison in food materials have been given below as per table 1 ^[3]

Table 1 Bhoutic Parikshan of Visajusta Anna

S. No.	Food Material	Lines	Smell
1	Meat soup	Blue Lines	Muscle – fat
2	Milk	Coppery read	Muscle – fat
3	Wines & Water	Black	Muscle – fat
4	Curds	Blue	Muscle – fat
5	Buttermilk	Bluish – Yellow	Muscle – fat
6	Sour gruel prepared from grains	Black	Muscle – fat
7	Medicinal decoctions	Brown	Muscle – fat
8	Ghee	Light Brown	Muscle – fat
9	Honey	Green	Muscle – fat
10	Oils	Light – Red	Muscle – fat

Fruits ^[1,3]: Unripe fruits ripen (very quickly), ripe fruits undergo putrefaction, green ones their shining and attain the features of the cooked ones, the dry ones become black or discoloured, hard ones become soft and soft ones become hard.

Flowers ^[3, 5]: The Flowers of the garland fade lose their fade, lose their smell, their edges get cracked.

Cloths ^[3,1]: The bed sheets and covering will have black patches, their threads, wool and stitches fall off.

Oils ^[6]: If materials for massage (oil etc.) is poisoned becomes slimy, thick or discoloured.

Articles ^[3, 7]: Articles made out of metals and precious stones appear as coated with dirt, lose their smoothness, luster, heaviness, brilliance, colour and feel.

(II) Agni Pariksha (examination on fire):

^[8, 9] When poisoned food is thrown over the fire, it burns with single point flame (not with normal spreading flame) becomes like *Peacock's* neck, interrupted and slow, emits flame of different colours like a *Rainbow* and gives out cracking loud sound. The smoke that emerges will be smelling like that of dead body, causes fainting, watering of the eyes, nose and mouth, horripilations, headache, running in the nose and disturbance of vision.

(III) Lakshananusar Parikshan**(According to Signs and Symptoms):**

In our ancient Ayurved science poison has been divided in major two parts, *Sthavar Visha* (vegetable/ metal poison) and *Jangam Visha* (animal bite poison).

(a) Lakshana of Sthavar & Jangam Visha:

^[10,11] ***Sthavar Visha Lakshan (signs and symptoms vegetable/ metal poison):*** Fiver, hiccup, sensitivity in teeth, and spasm in throat, frothy saliva, vomiting, anorexia, dyspnea, and fainting.

Jangam Visha Lakshan (signs and symptoms of animal bite poison): Sleep, drowsiness, exhaustion, burning sensation, inflammation, horripilation, edema, and diarrhea.

Mode of administration: As per table (2).

No.	Mode of administration	Signs & Symptoms
1	<i>Vishadhum</i> (Poisonous Fumes) when inhalation or smoke	Fainting, watering of eyes, nose and mouth; horripilations, headache, running in the nose and disturbances of vision. ^[12]
2	Vapor of poisoned food	Cardiac pain, abnormal movement of the eyes and headache. ^[13]
3	<i>Vishajusta Dantakasta</i> (Poisoned tooth brush etc.)	The bristles of the tooth – brush fall out; it emits the smell of poison and causes dryness and swelling of the palate, teeth, tongue and lips. ^[14, 15]
4	<i>Vishajusta Anjana</i> (Poisoned collyrium)	Accumulation of dirt in the eyes, redness, pain, distortion of visions and even

		blindness. ^[16] sliminess due to lacrymation, burning sensation and pain ^[17]
5	<i>Vishajusta Nasyadhum</i> (poisoned snuff & smoke)	Headache, discharge of kapha (watery fluid), bleeding through the orifices (nose, eyes, mouth) and disorder of sensory perception. ^[18, 19]
6	Ear drop	Swelling, pain, ulcers and defects of hearing. ^[20] Discharge from ear. ^[21]
7	Smelling flowers	Headache, tears in the eyes and loss of sensation of smell will develop. ^[20, 22]

(c) Signs & symptoms according to site of poison [Table 3]

No.	Site	Signs & Symptoms
1	<i>Visha</i> in mouth (Poison in mouth) – Ingestion	Tingling sensation in the lips, burning sensation inside the mouth, hardness at root of the tongue, lockjaw, tingling sensation in the teeth, more salivation, and loss of sensation of taste, ^[23] tongue has pricking pain. ^[24]
2	<i>Visha in amashaya</i> (Poisoned food in the stomach)	Perspiration, toxicity, fainting, vomiting, discoloration, distention of abdomen, horripilation, burning sensation, loss of appetite (Taste), obstruction to vision and working of the heart, and appearance of rashes (spots) all over the body. ^[25] Flatulence, trembling and abnormality of sense organ. ^[26]
3	<i>Visha in pakvashaya</i> (Poisoned food in the intestine)	Thirst, burning sensation, Fainting, diarrhea, gurgling noise, in the abdomen, stupor, disorders of sense perception, loss of strength, emaciation, pallor and enlargement of the abdomen. ^[27, 28]

Signs & symptoms according to poisoned material or substance

Table4: Signs & symptoms according to poisoned material or substance

S. No.	Mode of administration	Signs & Symptoms
1	<i>Vishajusta tailadi</i> (poisoned oil etc.) if used for oil bath	Produce burning sensation on the skin, perspiration, ulcers, bleeds and lacerations. ^[29] Eruption of boils, pain, discharge, sweating, fever and tearing of muscles. ^[30]
2	Through Umbrella	Boils on the body which is painful, suppurating quickly and resembling the ripe fruit of jambava. ^[31]
3	Oil for bath	Head poisoned – produces headache, appearance of nodules and falling of hairs. ^[32]
4	Poisoned comb	Falling of hair, headache, bleeding from passages and appearance of cysts on head. ^[33]
5	Poisoned wooden foot wear	Inflammation, discharge, numbness and eruption of boils in feet. ^[34]
6	Poisoned ornaments	Respective sites – Burning sensation, suppuration and tearing ^[35]

(e) *Visajusta Bhumi* (poisoned land): ^[36]

The region of land which has been poisoned appears as through burnt from fire, the grass and bush will be found faded and drooping down, insect and crawling animals lying dead, the hoofs and nails (of horse etc.) become cracked and fall off, may develop burning sensation, itching and pain, men and

animals may develop vomiting, fainting, fever, delusion and headache.

(f) *Visajusta Jala* (poisoned water): ^[37]

The water of reservoirs (ponds, lakes, rivers) which has been poisoned, will have bad taste, slight warmth, full of long streaks (lines) and foam, heavy (hard to digest) and broken up (curdled); rejected by the birds and shoals of dead fish floating. It produces pain, swelling and irritation on touch. Rice cooked in that water causes burning sensation immediately after, undergoes digestion after a long time, causing burning sensation, producing fainting and fever after digestion and appearance of colours like blue, yellow, brown or red all over the body.

(g) *Visajusta Vayu* (poisoned air): ^[38] The air that has been poisoned will be cold during summer and hot during winter, causes, fainting and other symptoms.

(h) **Poisoned Fodder & Food:** ^[39] They suffer from malaise, fainting, vomiting or diarrhea or death.

(i) **Poisoned Tree:** ^[40] The shade of tree which have been poisoned is found to be abnormal, the flower of such trees, might either lose their fragrance or become more fragrant than usual, may cause itching, ulcerations and diarrhoea.

(j) *Visha Kanya* (Poisoned women): ^[41] In ancient time some people especially king and wealthy person used to be killed by *Visha Kanya* (Poisoned women). The

method of making of *Visha Kanya* (Poisoned women) by administering small quantities of poison daily even from the day of birth, they make the body of a woman to become poisonous.

Person dies by touching her, by her breath and such other contacts. Hence she is to be tested before hand. The flowers and flowers buds held in her hand or worn in her hair fade away, the bugs in the bed, the lice in the cloth and insect in the bathing water used by her will be found dead.

(k) *Gara Visha & Dushi Visha*
***Gara Visha* : (Artificially mixed poison)**

^[42] *Gara visha* is prepared by mixing many drugs. It may produce swelling (Dropsy) anaemia, enlargement of the abdomen, insanity, piles etc. ^[41]

(L) *Dushi Visha* : (Weak Poison): ^[43, 44]

One suffering from *Dushi Visha* passes liquid stool of abnormal colour, has foul smell and tastelessness in mouth, thirst, fainting, vomiting, muffled voice and symptoms of toxicity and dusyodara (~abdominal disease). If it is located in stomach, the person suffers from disorders of *kapha* and *vata* and if located in intestines, he becomes a victim of the disorders caused by *vata & pitta*. In this cases, hair fall off and limbs dropdown and the person becomes like a bird with severed wings. Situated in *rasa* etc. it produces respective disorders of dhatu.

(IV) *Pachabhautic Pariksha of Visha*
(Examination of elements of poison): ^[45] The elements are

named accordingly on the basis of the theory of '*Vyapadesastu Bhuyastha*'. For e.g. the element having '*Pruthvi*' *Mahabhuta* will be termed as also are composed of *Panchamahabhutas* and are present with specific characters i.e. *Shabda* (sound), *Sparsha* (touch), *Rupa* (Appearance), *Rasa* (Test), *Gandha* (smell) which has been explained by *Dalhana* in his *Sushruta* commentary in the context of the *Vishnna Pariksha* (poisoned food examination).
Shabda Pariksha (Examination of Sound) - When poisoned food burns making loud cracks.

Rupa Pariksha (Examination of Appearance) – When cast into the fire it acquires the colour of a peacocks neck.

Gandha Pariksha (Examination of smell) – When it burns it emits irritating fumes and it can't be speedily extinguished.

Rasa Pariksha (Examination of Test) – *Jivajivakas* (flies) die after flying over the poisonous food. ***Gandha Pariksha*** (Examination of smell) – If the poisoned food comes in contact with hand it causes burning sensation in hand and falling nails

(V) Examination on Animals and Birds:

^[46, 47, 48] After consuming poisoned foods, animal shows following symptoms

Table5: Typical signs and symptoms after poisoning in Animals

No.	Animal / Birds	Effects / Symptoms
1	Crows	Lose voice
2	Flies	Do not sit on such food, if by chance sit, they die.
3	<i>Cakora</i> bird	Eyes become red by sight of poisoned foods.
4	<i>Kokila</i> (Cuckoo)	Voice undergoes change (coos abnormally)
5	Swan (dog)	Gait altered, roams excessively
6	<i>Brngraja</i> bird (Srike)	Begins to cry, coos
7	<i>Kraunka</i> bird (Domoiselle crane)	Become excited (toxic)
8	<i>Krikavaku</i> (cock)	Hoots loudly
9	<i>Suka</i> (Green parakeet) and <i>Sarika</i> (mynath) (parrot)	Make long, loud sounds, cry
10	<i>Camikara</i>	Vomits
11	<i>Karandava</i> birds (White breasted goose)	Fly Way
12	<i>Jivanjiva</i> (Peacock Pheasant) bird	Either dies or faints
13	<i>Nakula</i> (Mangoos)	Gets horripilations
14	<i>Vanara</i> (Monkey)	Eliminates faces
15	<i>Prsata</i> (Spotted deer)	Weeps, passes tears
16	<i>Mayura</i> (Peacock)	Gets agitated, elated and by it mere look, the poison becomes weak.
17	Back of elephant etc. is poisoned ⁽²⁰⁾	Animal becomes unhealthy, excessive salivation and readiness of eyes. ⁽²⁰⁾

(VI) *Ashumrut Parikshan* (Examination on dead body) The methods of detection of poison on dead body is performed by

external and internal examination with the help of signs. If the purpose of killing person by the poison is ingested with the mixing of food material, so some sign appears Black colour can be seen on hands, legs, teeth & nails, muscles looses & detaches from skin & fat.^[49]

If we are getting discharge of blood from bit sign and signs mentioned above, so it should be considered as person is killed by snake bite or any poisonous fly.^[50]

If persons posture is not proper, their cloth is scattered here & there and number of episode of diarrhoea occurred it should be considered as person is killed, by its administration of *Dhatu* & *Dhatu* like *Deliriant* poisons^[51]

A person, who died, its small amount of digested or undigested food material, has to be taken for '*Rasadi Pariksha*' or (chemical examination) has to be done by giving that food material to the birds.^[52]

After complete digestion of food material, a small or little part of heart has to cut & put into the Agni (fire). We get '*Chit – Chit*' sound and green and blue colour like rainbow. Which appears in rainy season, so it should be consider as food material is mixed with poison.^[53]

In the cadaver, of the animal, dead by consuming poison the poison will be found accumulated in the heart (of that animal), if dead by being bitten by poisonous insect etc.

or dead by wounds of weapons smeared with poison then the poison will be found at the site of the bite or wound.^[54]

DISCUSSION

Daily the number of patients is dying due to poisoning. In this modern era the equipments of detection of poisoning are so costly. Therefore, initially it should be diagnosed with the help of *Bhoutic Parikshan* (Physical Characteristics), *Agni Pariksha* (Examination on fire), *Lakshananusar Parikshan* (Test according to signs & symptoms), *Panchabhautic Pariksha of Visha*, Examination on Animal / Birds and *Ashumrut parikshan* (Examination on dead body). *Visha*, Examination on Animal / Birds and *Ashumrut parikshan* (Examination on dead body). With the help of typical signs & symptoms we can diagnose whether is it poisoning of *Sthavar Visha* (vegetable /metal poison) or *Jangam Visha* (poison due to animal bite). Fiver, hiccup, vomiting, anorexia etc. like signs and symptoms indicates person suffering *Sthavar Visha* and sleep, drowsiness, edema, and diarrhea etc. like signs and symptoms indicates person suffering *Jangam Visha*. In ancient time *Lakshananusar Parikshan* (Test according to signs & symptoms) was the one of the important methods of detection of poisoning. *Lakshananusar Parikshan* (Test according to signs & symptoms) was also used to detect the

poisoning in various conditions like mode of administration, site of poison, material or substance, *Visajusta Bhumi* (poisoned land), *Visajusta Jala* (poisoned water), *Visajusta Vayu* (poisoned air), Poisoned Fooder & Food, Poisoned Tree, *Visha Kanya* (Poisoned women), *Gara Visha & Dushi Visha*. Panchabhautic Parikhan of Visha is also one of the important methods to detect the poisoning. Panchabhautic Parikhan of Visha can be done with specific characters of poisonous food i.e. *shabda*, *spersha*, *rupa*, *rasa*, and *gandha*. To detect the poisoning, animal experiment also explained in ancient science. After consuming poisoned foods, animal shows typical symptoms and symptoms i.e. crows loses its voice, *Krikavaku* (cock) hoots loudly. Various typical signs & symptoms of poisoning have been described here in tabulation form, so it is understood easily by the common people. In ancient time they use to detect the poisoning after death also and *Ashumrut Parikshan* explained to detect poisoning with the help of internal and external examination of dead body. In ancient time there was method of making *Visha Kanya* (Poisoned women), she used to kill the king and wealthy person. So the King to protect himself and his family members always used to appoint an efficient physician to protect from the danger of poisoning with the help of methods of

detection of poisoning. So, all these methods were efficiently used to detect the poisoning in ancient era.

CONCLUSION

This study will be helpful to common men, physician and student of *Ayurved*, because this topic is included in the syllabus of *Ayurved* also. This study helps those persons who are willing to acquire knowledge on this topic. In future this study may save the time and decrease the pains due to collection of all scattered literature at one place. In this modern era various costly methods have been given to detect the poison and simultaneously for reporting of any poisonous sample it takes a little time, and this time is always very critical for patient. That's way in cases like poisoning time is one of the important factors. In this study poisoning has been divided in major six groups, and detection of poisoning is done with help of signs and symptoms of poison. So this study will prove to be helpful for those physicians who are deprived from recent modern equipments which are used to detect the poisoning.

REFERENCES

1. Priya Vrat Sharma.,editor. *Susruta Samhita* , *Kalpasthan* , On Protection and Management of Food and Drinks, 1/46 – 47, 1st edition, Chaukhambha Visvabharati, Varanasi, 2014; 09.
2. Prof..k. R. Srikant Murthy., editor. *Astanga Sangraha of Vagbhata* , *Sutra Sthan*, *Annaraksha Vidhi Adhyaya*, 8/06, 9th edition, Chaukhambha Orientalia, Varanasi, 2005; 167.
3. Ibidem *Astanga Sangraha of Vagbhata* (2), *Sutra Sthan*, *Annaraksha Vidhi Adhyaya*, 8/ 06; 168.
4. Ibidem *Astanga Sangraha of Vagbhata*(2), *Sutra Sthan*, *Annaraksha Vidhi Adhyaya*, 8/ 06; 168 & 171.
5. Ibidem *Susruta Samhita*(1), *Kalpasthan* , On Protection and Management of Food and Drinks, 1/65; 12
6. Ibidem *Susruta Samhita*(1), *Kalpasthan* , On Protection and Management of Food and Drinks, 1/51; 10.
7. Ibidem *Susruta Samhita*(1), *Kalpasthan* , On Protection and Management of Food and Drinks, 1/74; 13.
8. Ibidem *Astanga Sangraha of Vagbhata*(2), *Sutra Sthan*, *Annaraksha Vidhi Adhyaya*, 8/ 06; 169.
9. Ibidem *Susruta Samhita*(1), *Kalpasthan* , On Protection and Management of Food and Drinks, 1/29; 07.

10. Prof. Priyavrat Sharma, Charak Samhita, Chikitsa Sthana, Treatment of Poisoning, 23/16, edited by Prof. Priyavrat Sharma, 5th edition, Chaukhambha Visvabharati, Varanasi, 2000;366.
11. Prof. Priyavrat Sharma, Charak Samhita, Chikitsa Sthana, Treatment of Poisoning, 23/15, edited by Prof. Priyavrat Sharma, 5th edition, Chaukhambha Visvabharati, Varanasi, 2000;365.
12. Ibidem Astanga Sangraha of Vagbhata(2), Sutra Sthan, Annaraksha Vidhi Adhyaya, 8/ 10; 169 – 170.
13. Ibidem Susruta Samhita(1), Kalpasthan , On Protection and Management of Food and Drinks, 1/34; 07.
14. Ibidem Astanga Sangraha of Vagbhata(2), Kalpasthan , Annaraksha Vidhi Adhyaya, 8/ 16; 173.
15. Ibidem Susruta Samhita(1), Kalpasthan , On Protection and Management of Food and Drinks, 1/48;10.
16. Ibidem Astanga Sangraha of Vagbhata(2), Sutra Sthan, Annaraksha Vidhi Adhyaya, 8; 173.
17. Ibidem Susruta Samhita(1), Kalpasthan , On Protection and Management of Food and Drinks, 1/69;12 - 13.
18. Ibidem Astanga Sangraha of Vagbhata(2), Sutra Sthan, Annaraksha Vidhi Adhyaya, 8/ 17; 174.
19. Ibidem Susruta Samhita(1), Kalpasthan , On Protection and Management of Food and Drinks, 1/63;12.
20. Ibidem Astanga Sangraha of Vagbhata(2), Sutra Sthan, Annaraksha Vidhi Adhyaya, 8/ 20; 176.
21. Ibidem Susruta Samhita(1), Kalpasthan , On Protection and Management of Food and Drinks, 1/67;12.
22. Ibidem Susruta Samhita(1), Kalpasthan , On Protection and Management of Food and Drinks, 1/65;12.
23. Ibidem Astanga Sangraha of Vagbhata(2), Sutra Sthan, Annaraksha Vidhi Adhyaya, 8; 171.
24. Ibidem Susruta Samhita(1), Kalpasthan , On Protection and Management of Food and Drinks, 1/38-39;08.
25. Ibidem Astanga Sangraha of Vagbhata(2), Sutra Sthan, Annaraksha Vidhi Adhyaya, 8/ 14; 171.
26. Ibidem Susruta Samhita(1), Kalpasthan , On Protection and Management of Food and Drinks, 1/40- 41;08.
27. Ibidem Astanga Sangraha of Vagbhata(2), Sutra Sthan, Annaraksha Vidhi Adhyaya, 8; 172.
28. Ibidem Susruta Samhita(1), Kalpasthan , On Protection and Management of Food and Drinks, 1/42; 09.

29. Ibidem Astanga Sangraha of Vagbhata(2), Sutra Sthan, Annaraksha Vidhi Adhyaya, 8; 174.
30. Ibidem Susruta Samhita(1), Kalpasthan , On Protection and Management of Food and Drinks, 1/51- 52;10.
31. Ibidem Astanga Sangraha of Vagbhata(2), Sutra Sthan, Annaraksha Vidhi Adhyaya, 8/ 18; 175.
32. Ibidem Astanga Sangraha of Vagbhata(2), Sutra Sthan, Annaraksha Vidhi Adhyaya, 8/ 19; 175.
33. Ibidem Susruta Samhita(1), Kalpasthan , On Protection and Management of Food and Drinks, 1/56;10 - 11
34. Ibidem Susruta Samhita(1), Kalpasthan , On Protection and Management of Food and Drinks, 1/72;13.
35. Ibidem Susruta Samhita(1), Kalpasthan , On Protection and Management of Food and Drinks, 1/74;13.
36. Ibidem Astanga Sangraha of Vagbhata(2), Sutra Sthan, Annaraksha Vidhi Adhyaya, 8/ 36 - 40; 179 - 180.
37. Ibidem Astanga Sangraha of Vagbhata(2), Sutra Sthan, Annaraksha Vidhi Adhyaya, 8/ 36 - 40;180 – 181.
38. Ibidem Astanga Sangraha of Vagbhata(2), Sutra Sthan, Annaraksha Vidhi Adhyaya, 8/ 36 - 40; 181 - 182.
39. Priya Vrat Sharma.,editor. Susruta Samhita , Kalpasthan, On Description of Poison of Mobile Source, 3/13, 1st edition, Chaukhambha Visvabharati, Varanasi, 2014; 29.
40. Ibidem Astanga Sangraha of Vagbhata(2), Sutra Sthan, Annaraksha Vidhi Adhyaya, 8/ 51 – 52 ;182.
41. Ibidem Astanga Sangraha of Vagbhata(2), Sutra Sthan, Annaraksha Vidhi Adhyaya, 8/53-56; 182 -183.
42. Prof..k. R. Srikant Murthy., editor. Astanga Sangraha of Vagbhata , Uttarasthana, Visa Pratisedha Adhyaya, 40/14 & 15, Reprint edition, Chaukhambha Orientalia, Varanasi, 2012; 354
43. Ibidem Astanga Sangraha of Vagbhata(42), Uttarasthana, Visa Pratisedha Adhyaya,40/42 & 43; 357 & 358.
44. Priya Vrat Sharma.,editor. Susruta Samhita , Kalpasthan, On Description of Poison from Immobile Source, 2/27 & 28, 1st edition, Chaukhambha Visvabharati, Varanasi, 2014; 20 & 21.
45. Dr. U. R. Shekhar Namburi,editor. Atext book of Agadtantra, Diagnosis of Poisoning, Chapter 05, 1st edition, Chaukhambha Sanskrit Sansthan Varanasi, 2013; 41 & 42
46. Ibidem Astanga Sangraha of Vagbhata(2), Sutra Sthan, Annaraksha Vidhi Adhyaya, 8/12;170.
47. Ibidem Susruta Samhita(1), Kalpasthan , On Protection and Management of Food and Drinks, 1/28 - 33; 07.

48. Ibidem Susruta Samhita(1), Kalpasthan ,
On Protection and Management of Food and
Drinks, 1/62;11.
49. Vidyabhaskar, Vedratna, Udervir
Shastri.,editor. Kautilya Arthashastra,
Kantakshodhan (Chaturtha Adhikar),
Ashumrut Pariksha, 07/82/08; 1st edition,
Hemchand lakshamandas publication, New
Delhi, 1969; 136.
50. Ibidem Kautilya Arthashastra(49),
Ashumrut Pariksha, 07/82/09; 136
51. Ibidem Kautilya Arthashastra(49),
Ashumrut Pariksha, 07/82/09-11; 136 - 137
52. Ibidem Kautilya Arthashastra(49),
Ashumrut Pariksha, 07/82/12; 136
53. Ibidem Kautilya Arthashastra(49),
Ashumrut Pariksha, 07/82/13; 137
54. Ibidem Astanga Sangraha of
Vagbhata(42), Uttarasthana, Visa Pratishedha
Adhyaya, 40/26; 355.

CITE THIS ARTICLE AS –

Arvind A. Tumram, Ancient Method of Detection of Poisoning in Different Condition- A Review, Int. J. Panchakarma And Ayu. Med., 2016; Vol 1, Issue 1.

Source of Support – Nil

Conflict of Interest – None Declared