

# AGADTANTRA (AYURVEDA TOXICOLOGY): PRECIOUS GIFT TO MANKIND

## Abstract

Agadtantra is one of the eight significant branches of Ayurveda called as Asthanga Ayurveda deals with science of poison. It has been stated that every material in the universe becomes toxic when it is used indiscriminately. The potency of the toxins may vary. It is evident that elimination of toxins from the body is must for healthy life. Even though incidence of Plant toxicity for example (Arka) Calotropis poisoning or animal poisoning for example (Sarpa) snakebites is on the decline because of awareness. Still the number of patients reporting to Physicians with various skin diseases, allergic manifestations and manifold psychological problems caused by food, drug and pollution are increasing considerably which is the leading health problem of current era. Ayurveda studies problems caused by food, drug and pollution under Viruddha Aahar (Incompatible food), Aam Vish (endogenous toxin), Krutrim Visha (artificial poisons), Dooshi Vish (Denatured Poison) which are unique and significant concepts of Ayurveda and treats them accordingly by purification process and different Vishaghna yogas-Agadas (Antitoxic formulations). Thus we can find that Ayurvedic toxicology is far more relevant in the present and for the days to come than ever before.

**Keywords:** Agadtantra (Ayurveda toxicology), Ayurveda Concepts of Poisoning, Awareness about poisoning, Management

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## I. INTRODUCTION

1. **Ayurveda:** Ayurveda is a branch of the Atharvaveda. The word Ayurveda is composed of two words Ayu and Veda. Ayu- life, Veda-sacred knowledge. **Ayurveda is sacred knowledge, science of life** [1]. In Ayurveda life is defined as the combination of mind, body, soul and senses. According to Ayurveda **Dosha, Dhatu, Mala and Agni** are four basics of the human body. This 'Mool Siddhant' or the fundamental principles of the body in Ayurveda hold immense significance, particularly in the context of addressing and managing health issues.

Balance of humors (Dosha), well-functioning tissues (Dhaatu), regular elimination of waste (mala), a healthy appetite indicative of effective digestion (Agni), the capacity to discern tastes (Rasa), a normal complexion, proper functioning of sensory and motor organs, and synchronization between the mind and body- these attributes collectively signify one who has been **detoxified** [2].

There are eight significant branches of Ayurveda called as **Asthang Ayurveda**. **Agadtantra is one of the significant branch of Asthang Ayurveda which includes science of poison (Visha)** with the synonyms Damstra, Visha chikitsa, Vishagaravairodhik- Prashamanam, Vishatantra [3].

2. **Agadtantra (Toxicology):** The field of Agadtantra extensively examines both natural and artificial toxic substances and poisons, providing a thorough exploration of their antidotes. It also delves into various techniques for eliminating these poisons from the body. This branch of study encompasses the identification and management of poisoning resulting from a range of sources, including snakebites, insect stings, spider bites, rodent bites, and ingestion of toxic plants, which may include herbs like Aconite and Nerium, as well as vegetables and minerals such as lead and mercury. Additionally, Agadtantra addresses poisoning caused by synthetic poisons derived from toxic substances or resulting from the combination of two non-poisonous substances, offering corresponding remedies. This discipline also extends its scope to the study of soil, air, and water pollution, which are fundamental factors contributing to various hazardous epidemics. It's noteworthy that Agadtantra shares similarities with the contemporary field of Toxicology.

### **Aims of Agadtantra and its Utility:**

- Protection of healthy individuals from poisons and
- Management of individuals afflicted from poisons.

Current dietary patterns, lifestyle choices, and mental attitudes differ significantly from those of previous generations. The fundamental necessities for sustenance, namely air, food, and water, have all been tainted by pollution, and this situation presents ominous challenges for future generations. Similar gloom, mentioned from ancient period by Ayurveda through the discipline Agadtantra. In present scenario, as compared to plants, minerals and venom poisoning, cases of poisoning due to Garvisha (Concocted poison), Dushivisha (Denatured/ Latent poisons), Virruddhaahar (Incompatible food), Aamvish, Environmental poisoning are increased, the toxic manifestation and the

remedial measures of which is **unique** and **significant concept** of Ayurveda. The greatest gift we can offer to the mankind is a clean and healthy world which is possible through Ayurveda toxicology. [4,5,6]

Awareness of toxicology is essential to improve quality and longevity of life, this chapter illustrate the source, development and toxic manifestations of **endogenous and exogenous poisoning**, hints on the remedial measures and concept of treatment.

## II. DEFINITION OF VISHA (POISON)

The very sight of one that causes vishada (depression) among the living being is a visha (poison), alternately the one that entraps human being in Mrutupasha (death rope ) and destroy the person is a Visha.[7]. Poison is defined as any substance taken into or formed in the body that destroys life or impairs health [8]. The term "Poison" (Visha) is defined as any substance, whether originating externally (exogenous) or formed within the body (endogenous), which possesses the potential to threaten life or cause harm to health [9].

### 1. Concept on the Origin of Visha (Poison) :

Mythological origin of Visha - Two concepts exist on the origin of Visha (poison):

- In the days of yore, while the Samudra (ocean) was being churned by the Suras (gods) and Asuras (demons), to obtaining Amruta ( Ambrosia), the divine potion for eternal life. Even prior to production of Amruta, a horrible creature, resembling a man arose from the sea, who was resplendent with Teja (aura) and had four larger curved canine teeth (Damshttra), green hairs, fiery eyes and the body emitted fierce fire. The world become Vishanna (despaired) at his sight and cast a deep shadow of gloom to the universe. **Sorrow (Vishaada) is generated by it and hence the name Visha.** Lord Brahma dispersed and dispatched this creature to immobile (Sthaavara) and mobile (Jangama) substrata by uttering a HUM sound. On reaching the substrates the creature merged with them, lost its shape and became indistinguishable [10]. Therefore Visha originated from Ambu (water) and resembles to Pavaka(Agni).
- While Lord Brahma was engaged in the process of creation of the universe, the task was hindered and obstructed by a demon (Asura) known as Kaitabba. Naturally, Lord Brahman was angered the abode of powers, from mouth of whom the anger in physical form, a terribly fierce one, fell down. It burnt to ashes the roaring demon, mighty and like death god. There after its miraculous luster developed further which on the very sight produced languor in gods, because of producing vishada (languor),it came to be known as Visha (Poison). Then after creating the progeny the Lord put the remnant anger in beings immobile [Sthavara] and mobile [Jangama] [11].

This concept highlights the fierce nature and deceptive appearance of poison. Further it can be gathered that the effects of poison hardly respond to oppression or suppression. They have to be eliminated.

## 2. Classification of Poison [Visha]:

There are two types of poisons that have been described in the Agadtantra-

- **The Natural Poisons** They are categorized as follows: Inanimate (Sthavara) and Animate (Jangama). Inanimate poisons, also known as Sthavara, encompass toxins derived from plants, as well as toxic minerals, metals, or metal ores found within the Earth. Animate poisons, or Jangama, encompass venoms originating from animals such as snakes, scorpions, worms, insects, and others.
- **Artificial Poisons [Gara]** - Concocted poisons are a category of poisons that are intentionally created by blending various types of animate and inanimate poisons. They can be further classified into two subcategories: True concocted poison, which consists of non-poisonous substances that become toxic solely as a result of their combination. Composed of mixing poisonous materials [12]

### By Other Context:

Visha (poison) is of three type;

- Sthavar visha (Poison from immobile source),
- Jangam Visha (Poison from Mobile Source) and
- Dushi Visha (Polluting poison) [13]
- **Sthavar Visha (inanimate/immobile poison):** Poisonous substances occurring in Sthavar (inanimate /immobile /static) substances are termed as sthavar visha. Ayurveda classics categorized sthavar vish in two types according to their potency- **Mahavisha** (strong Poison), **Upvish** (mild poison). Upvisha in comparison to Mahavish are milder in strength and toxic effect. The only plant poison exist in current era as Mahavisha is **Vatsnabh (Aconitum ferox)** and Upvisha - Arka (Calotropis procera) Snuhi (Euphorbia nerifolia), Langli (Gloriosa superba), Karveera (Nerium indicum), Gunja (Abrus precatorius), Ahiphena (Papaver somniferum), Bhanga (Cannabis sativa), Kupeelu (Struchnous nuxvomica), Jayapala (Croton tiglium), Bhallataka (Semicarpus anacardium), Dhatura (Dhatura metel), Chitraka (Plumbagozeylanica) and metal poisons are Parada (Mercury) Sankhiya visha (Arsenic), Tuttha (Copper Sulphate) etc. [14]

**The substrata (Adhistan)** of natural Inanimate poisons are ten viz. root, leaves, fruit, flower, bark, latex, heart. wood, resins, toxic minerals and metals and tuber.

### Toxic Manifestations of Inanimate Poison -

- Root poisons induce a sensation of constriction, leading the patient to utter incoherent speech and eventually lose consciousness.
- Leaf toxins provoke a feeling of tightness or aching pain in the organs, accompanied by yawning and respiratory issues
- Fruit poisons result in vomiting, loss of appetite, and swelling of the testicles
- Toxic flowers trigger flatulence, vomiting, and eventually render the patient unconscious.

- Skin (bark), heartwood, and mineral poisons cause bad breath, dryness, and roughness of the mouth, accompanied by headaches and inflammation of the mucous membranes
  - Latex poisons lead to frothy mouth discharge, a heavy tongue sensation, followed by incoherent speech and purging.
  - Mineral and metal toxins produce a burning sensation in the palate, chest pain, and may induce a coma [15].
- **Jangam Visha (Animate / mobile Poison):** Poison derived from animals like Sarpa(Snake) and other such poisonous beings is termed as Jangam Visha.

Ayurveda has enlisted faunae that are poisonous – Sarpa (Snakes), Kita (insects), Mushaka (Rat), Luta (Spiders),Vrushika (Scorpion),Gruhgodhika (house lizard),Savish Jalauka (poisonous leech),Matsya (poisonous fish), Manduka (Poisonous frog) Kanabha (a kind of bird),

Alarka (Dog, Fox) and other such creatures with teeth, Visha (poison) enclosed in their dentures and poisoning caused by their bites. Sites of venom among poisonous animals, is termed as **Adhasthan (site)** of Jangam visha. The total count amounts to sixteen, namely: vision, respiration, teeth or fangs, nails, urine, feces, semen, saliva, menstrual blood, pincers, anal region, beak, bone, bile, hairs, and deceased bodies [16].

Bite by **Jangama** creatures gives rise to **general features** as-

Nidra(Somnolence), Tandra (drowsiness), Klama (mental fatigue), Daha(burning sensation).Paka (inflammation), Lomharshana (horripilation), Shopha(Oedema), Atisara(diarrhea) [17].

**Trarment of Visha(Poisoning)** – consist of two type

- **Samanya Chikitsa (Generalized treatment)** - Treatment is based on the involved Doshas(Humors), stages of poisoning and symptomatically. Aacharya Charaka has enumerated Chaturvidha Chikitsa Upkram (twenty four Therapeutic modules) for general treatment of poisoning.
- **Vishista Chikitsa (Specific Treatment)** – Is specific to the poison in question, e.g. treatment of poisoning by Kuchala, Vatsanabha or management of Sarp Visha (Snake bite).

### III. CONCEPT OF PRATIVISH (ANTIDOTE):

Accoding to Ayurveda Sthavar Vish is antidote for Jangam vish and Jangam visha is antidote for Sthavar vish, For instance, when dealing with root poisoning, snake venom is employed as an antidote, while in cases of snake poisoning, plant-based toxins are administered. This illustrates that the administration of Visha serves as a remedy for poisoning due to its specific action, known as Prabhav [18].

1. **Gara Visha (Artificial Poison):** Artificial poison, alternatively referred to as concocted poison, is formulated by combining different substances, including a mixture of animate

and inanimate poisons. It results in the development of Gada diseases. Occasionally, Gara toxins metabolize at a slow pace, initially causing mild harm but ultimately becoming a serious threat. Over time, these toxins can prove fatal and lead to death [19].

Ayurveda describes **two types of artificial poison**;

- One is composed of non-poisonous matter given in combination. (Separately nontoxic), but these act as poison when ingested in the mixed form for example. -Madhu (honey) and Ghruta (Ghee) in equal quantity.
- The second type is prepared by combining toxic materials. for example - Pesticides

Depending on their specific combinations, these Gara visha toxins can manifest as acute poisoning, sub-acute poisoning, or chronic poisoning. They can also give rise to various disorders within the body, such as Shopha (Edema), Pandu (Anemia), Udara (Ascites), Unmada (Psychological disorders), Durnam (Piles), and more [20].

In current scenario, Gara visha can be associated with any substance, whether it is of synthetic or artificial origin, that poses a direct threat to the body or through the toxic byproducts it generates.

In the 21st century, every person on this planet is affected by the presence of artificial or synthetic substances. The concept of Gara visha encompasses a wide range of areas, including incompatible diets, food adulteration, the use of preservatives and additives in food, the inclusion of sweeteners in food products, the presence of pesticides or agrochemicals in cereals, vegetables, fruits, and milk, as well as drug-induced toxicity resulting from combinations of drugs or the indiscriminate use of synthetic medications such as painkillers, antibiotics, anticonvulsants, antihypertensives, oral contraceptives, and occupational poisoning, among others.

**Management of Garavisha:** This involves the use of appropriate emetics or purgatives to induce vomiting and purging, as well as the consumption of a diet that is compatible. Additionally, the utilization of Tamra Bhasma with honey is employed for Hridashuddhi (removing poison from the heart), and medication with Swarna Bhasma (Gold Bhasma) is recommended [21].

- 2. Dooshivisha (Denatured or Latent Poison):** Any poison, whether it is of inanimate (Sthavar), animate (Jangam), or artificial (Kritim Visha) origin, that remains incompletely eliminated from the body or only partially neutralized even after the administration of antidotes or exposure to factors such as fire, wind, or sunlight, and when the inherent ten qualities of the poison become less potent, is referred to as Dooshivisha.

Dushi Visha, due to its low potency, does not immediately result in fatality. Instead, it persists within the body for an extended period, concealed by Kapha. These types of toxins only manifest their harmful effects after prolonged exposure. They remain in an inactive state for an extended duration, which can span several years. Poor dietary habits can contribute to the development of Dushivisha. Additionally, the retention of metabolic waste products such as feces, urine, and menstrual blood in the body can lead to the reabsorption of toxins into the bloodstream, resulting in Dushivisha. The symptoms

it produces are contingent on its interaction with the body's Dhatus. Although it is mild in nature and potency, it should not be disregarded.

Under favorable conditions such as specific geographical settings (Desha), timing (Kala), dietary choices (Anna), and daytime sleeping (Diwaswap), along with factors like the consumption of uncooked foods, cloudy weather, and ingestion of unsuitable foods, the poison's intensity increases, leading to the derangement of bodily Dhatus [22].

Poisons that have entered the body must undergo thorough and timely treatment, with the administration of appropriate and effective medications and antidotes. In cases where the drugs lack the potency to counteract the poison or when the treatment does not align with the Dhatus, or if the medication is not administered in the recommended dosage for the specified duration to effectively alleviate the poison, the poison may not be completely neutralized or cured, and its elimination from the body may be incomplete. Consequently, as a consequence of this improper and inadequate treatment, certain portions or traces of the poison persist within the body. While they may not produce immediate symptoms, these remnants remain dormant and gradually spread to other parts and tissues of the body. **When the conditions become suitable, it is manifested with upadravas (complications).**

Individuals afflicted with Dooshivisha exhibit signs such as a change in skin coloration, diarrhea, a disagreeable taste in the mouth, malodorous breath, insatiable thirst, vomiting, fainting spells, feelings of despondency, speech difficulties, and the development of chronic ascites known as Dushyodara. Progressing further, it impairs the functions of reproductive tissues, induces mental disturbances, triggers flatulence, and leads to the emergence of various skin conditions characterized by widespread lesions [23].

**In present era**, whether consciously or inadvertently, humans come into contact with a wide array of poisons, which can originate from either natural or artificial sources. Low-potency poisons of artificial origin, referred to as Garavisha, find their way into the body and function as Dooshivisha. The accumulation of chemicals and toxins often transpires when the rate of exposure exceeds the body's capacity for metabolism or elimination. Ayurveda elaborates on this concept of the body's toxin burden as part of its overall framework.

Because Dooshivisha (**Cumulative Poison**) is of lower virulence, it does not trigger immediate symptoms and remains inactive within the body for several years. Similarly, Dushi Visha can also form after the consumption of various types of incompatible foods (Viruddha Aahara), unhealthy dietary choices (Ahitkar Aahara), lifestyle factors (Vihara), and the use of different medications like steroids and NSAIDs. Additionally, the ingestion of foods contaminated with heavy metals or pesticides can contribute to the long-term development of Dushi Visha, resulting in various disease conditions, including non-communicable illnesses such as hypertension, diabetes mellitus, and cancer, among others.

**Management of Dooshivisha:** Toxins must be expelled from the body through various methods described in classical texts for body purification. Techniques such as Swedan

(sudation), Vamana (emesis), Virechana (purgation), and Raktamokshana play crucial roles in eliminating toxins and aiding in the detoxification process. For residual toxins that are not effectively removed, medications like Tuttha Bhasma, Gandak Rasayana, Kalyankghrut, and Dooshivishari Agada powder with honey are recommended [24].

- 3. Viruddha Ahara (Incompatible diet/food):** The term "Viruddha" refers to all types of foods that exacerbate the Doshas within the body without facilitating their expulsion. Such foods become unsuitable or detrimental to one's health. These food items are those that stimulate and disperse the doshas from their natural locations but do not aid in their elimination from the body. Consequently, these food items are considered unwholesome, as they not only incite the doshas but also exacerbate the Dhatus.

Drugs and food materials incompatible with the normal body tissue elements are Viruddha. Viruddha Aahar can be interpreted as food allergy.

Ayurveda has mentioned eighteen types of food incompatibilities viz.

- **Desha Viruddha**, or incompatibility related to location, E.g. by consuming hot and pungent food in arid regions or indulging in cold and oily food in damp, marshy areas.
- **Kala Viruddha**, which pertains to incompatibility with respect to timing, E.g. by the consumption of cold and dry food during the cold season or the intake of spicy and hot food during the summer.
- **Agni Viruddha**, concerning incompatibility with digestion, E.g. consuming heavy food when the digestive power is low and consuming light food when the digestive power is strong.
- **Matra Viruddha**, relating to dose incompatibility, E.g. when equal quantities of honey and ghee are combined.
- **Satmya Viruddha**, involving incompatibility with personal habits. E.g. occurs when spicy food is given to an individual who is not accustomed to it.
- **Dosha Viruddha**, which pertains to incompatibility with the bioenergetic humors (Vata, Pitta, or Kapha Doshas), is exemplified by foods that exacerbate any of these humors. E.g., a dry and light diet aggravates Vata Dosha, hot and spicy food exacerbates Pitta Dosha, and unctuous and cold food exacerbates Kapha Dosha.
- **Sanskara Viruddha**, which concerns incompatibility related to the cooking process, arises when there is improper cooking. E.g. cooking pigeon in mustard oil would be considered an incompatible cooking process
- **Veerya Viruddha**, pertaining to incompatibility based on potency, occurs when substances with opposing potencies are combined. E.g. the combination of fish and milk, with hot and cold potencies respectively, would be an example of this type of incompatibility.
- **Koshtha Viruddha**, related to incompatibility with the gut, occurs when a substance is not suitable for a particular type of Koshtha (gut). E.g. using strong purgatives in a person with Mrudukoshtha (soft bowel) or administering mild laxatives in someone with Krurakoshtha (hard bowel) would be instances of this type of incompatibility.
- **Avastha Viruddha**, which concerns incompatibility with the individual's condition, arises when a substance is not suitable for the person's particular state. E.g. providing dry food to a person who engages in vigorous physical activity or offering oily food to



someone who experiences excessive sleepiness would constitute examples of this type of incompatibility.

- **Krama Viruddha**, associated with incompatibility in the sequence of actions, occurs when certain actions are not aligned with the proper order. E.g. consuming food while experiencing natural urges like defecation and urination, or eating without having an appetite, would be instances of this type of incompatibility.
- **Parihara Viruddha**, which relates to incompatibility with exemptions, arises when substances that should be avoided before and after eating are used incorrectly. E.g., consuming hot-potency substances after eating pork would be an example of this type of incompatibility.
- **Upachar Viruddha**, concerning incompatibility in the regimen, occurs when certain practices are not aligned with the appropriate regimen. E.g., exposing oneself to cold conditions after consuming ghee would be an instance of this type of incompatibility.
- **Paka Viruddha**, which involves incompatibility in the cooking process, arises when food is not prepared correctly. E.g. using substandard fuel material for cooking or preparing rice that is either overcooked or undercooked would be examples of this type of incompatibility.
- **Samyoga Viruddha**, relating to incompatibility in combinations, occurs when certain substances are combined improperly. E.g. mixing milk with acidic fruits would be an instance of this type of incompatibility.
- **Hrita Viruddha**, which pertains to incompatibility with the mind, arises when certain foods or substances are objectionable to an individual's mental disposition. E.g., serving meat to a strict vegetarian would be an example of this type of incompatibility.
- **Sampata Viruddha**, related to incompatibility based on maturity, arises when substances are either immature or overly mature. E.g., using immature bananas or overripe mangoes would be instances of this type of incompatibility.
- **Vidhi Viruddha**, which concerns incompatibility with regulations, occurs when actions go against the established rules for consuming food. E.g. eating without privacy would be an instance of this type of incompatibility.

Viruddha ahara typically does not impact individuals who are accustomed to it, consume it in limited quantities, possess robust Agni (digestive power), are young, and engage in regular physical exercise.

**In present era** The subsequent food items, when consumed on a regular basis, fall under the category of eighteen types of Viruddha ahara (incompatible food). For instance, bakery products like cakes, pastries, bread, and biscuits containing combinations of ingredients like maida, milk, eggs, cheese, and more. In India, street foods such as Dabeli, Panipuri, and Chats that incorporate combinations of potatoes, tomatoes, chilies, and yogurts also belong to this category. Furthermore, burgers and pizzas are heavy to digest, and when consumed alongside cold drinks or milkshakes, they once again become incompatible.

### **Food combinations must be avoided in daily life style-**

- Do not combine fish with milk. Avoid consuming curd (dahi) at night.
- People experiencing heat exhaustion or sunstroke should refrain from consuming warm honey.
- Avoid drinking cold water immediately after a meal.
- Avoid having hot tea or coffee right after a meal.
- Do not mix raw and cooked foods together. Instead, consume the salad first and then have dinner after a brief interval.
- After eating green leafy vegetables, it is advisable to avoid drinking milk
- After eating Muli (radish), Lasuna (garlic), Tulsi (basil) one should not be consumed milk because of the risk of skin disorders (Leprosy).
- All Sour substances are incompatible with milk.
- Avoid eating melons and grains together. Melons digest quickly whereas grains take more time. This combination will upset the stomach.
- Sweet and sour fruits should never be combine[25,26].

Agni mostly gets vitiated by **Viruddhahara** and caused **Agnimandya** which is source of several diseases. Undigested food material turns sour and acts like a poison, which is called **Aama visha**.

Due to continuous use of incompatible food many diseases occur like: Klaihya (Impotency) Visarpa (Erysipelas) Jalodara (Ascitis) Unmada (Insanity) Bhagandara (Fistula in ano) Murcha (Coma/fainting) Aadhmana (Abdominal distention), Vandyatva ( impotency ), blindness, erysipelas, ascites, boils, insanity, anal fistula, fainting, intoxication, distension of abdomen, spasmodic obstruction of throat, anemia, food poisoning, skin diseases, mal-absorption syndrome, edema, hyperacidity, fever, congenital disease of progeny or death. Incompatible food act like Garavisha (Concocted poison) may be one of the reasons of several diseases and death.

**Management:** Diseases resulting from the consumption of incompatible food can be managed through various methods, including Vaman Karma (Medicated Emesis), Virechana (Purgation), administering antidotes (using substances with opposing qualities), taking precautionary measures, and preventive actions like exercise. In terms of secondary prevention, it involves gradually substituting incompatible habits with healthier ones [27].

4. **Aam Visha:** This condition occurs to those consume incompatible food regularly. Habitually eat before the previously ingested food is digested, having chronic indigestion.

Aacharya Vaagbhat amended this concept by providing the definition for Aama-It refers to an **endogenous toxin**. This toxin is a harmful material formed in the body at the level of gut or even at the level of cellular metabolism. The verity of this toxin will differ and the symptoms will change depending upon the production and accumulation of the toxin

General signs and symptoms cause by Aam Visha (endogenous toxin) are;

- Blockage in the channel of the Body, Fatigue, Heaviness of The Body, Neurotic Changes, Lassitude, Indigestion, Constipation, Loss of Appetite ,Increased Salivary Secretion.
- This Intrinsic Toxin (Aamavish) Present In Gut Produces Diseases Intestinal Obstruction (Alaska), Cholera (Vishoochika), Paralytic Ileus (Vilambika), Botulism (Danalāsaka).
- The treatment of these diseases is very difficult. Here Aama present in profuse quantity in the **body acts as an acute poison**. Any cold treatment will tend to increase Aama and any hot treatment will tend to augment the properties of poison.

#### **Management of Aam Visha:**

- Langhana (Keeping on fast), Swedana ,Sunbath,Pranayama Yoga,
- **Panchakarma:** It includes Vaman, Virechana, Nasya.
- Some herbal drugs: Fresh Ginger, Garlic, Black Peeper, Castor Oil, Aloe Vera, Coriander, Guduchi, Cumin, Pushkarmool, Tulsi, Guggul [28,29].

#### **IV. ENVIRONMENTAL TOXICITY IN AYURVEDA**

In Ayurveda toxicology, the concept of Environmental Toxicity holds special importance. The Kalpasthana section of the Susruta Samhita provides an extensive description of environmental toxicity. It encompasses the sources of environmental toxicity, particularly in the context of warfare-related poisoning purposes.

Features The process of recognizing environmental toxicity and formulating a treatment strategy to prevent and eliminate toxins from the environment are the methods employed to render it safe for human use..

The Susruta Samhita identifies four primary sources through which environmental poisoning can occur: Water, Land, Fodder, and Air.

- 1. Poisoned Water:** The water exhibits characteristics such as sliminess, a pronounced odor, the presence of froth, and the formation of lines on its surface. Additionally, frogs and fish in the water perish, and birds that inhabit marshy areas, as well as individuals, horses, and elephants that come into contact with the water, may experience symptoms such as vomiting, confusion, fever, burning sensations, and swelling.

**Management:** Herbs like Dhava, Ashvakarna, Paribhadra, Patala, Siddhaka, Moksaka, Rajadruma, and Somvalka are subjected to combustion, and the resulting ash is scattered onto a body of water. This ash is then added to the vessel containing drinking water for purification purposes.

- 2. Poisoned Land:** Areas like the ground, stone surfaces, riverbanks, and sand dunes that have been contaminated and come into contact with the body parts of cows, oxen, horses, elephants, camels, donkeys, and humans can induce symptoms such as swelling, a burning sensation, and hair and nail loss.

**Management:** Ananta (durva) along with Sarvagandha (fragrant drugs example ela, karpura etc and sweets (honey, jaggery etc) made as paste should be dissolved in sura (beer) or water and sprinkled on the poisoned road or water boiled with Vidanga, Patha and Katabhi be sprinkled.

**3. Poisoned Fodder:** Animal becomes weak, faint, vomit, purge and some even die.

**Management:** Animal should be made to hear the melodious sound of musical instrument such as drums, kettle drum etc which are beaten hard being smeared with the paste of silver, mercury, gold, sariva, musta all in equal quantity macerated in the bile of brown colored cow.

**4. Poisoned Air:** If air, smoke is poisoned birds fall on the ground, exhausted develop cough, headache and severe eye diseases.

**Management:** Laksha, Haridra, Ativisa, Abhaya, Musta, Harenuka, Eladala, Tagara, Kustha, and Priyangu should be put on fire and the resulting smoke purifies the air.

## V. CONCLUSION

Anything that stimulates the aggravation of humors without culminating in the expulsion of such vitiated humors is considered as incompatible in Ayurveda toxicology. Incompatible diet also falls under this group and continuous use of such diet causes various fatal diseases. Public health problems like water pollution and air pollution also come under the purview of Ayurvedic toxicology. Denatured poison, chronic and cumulative toxicity and incomplete detoxification or partial elimination of toxins from the body can function as Dooshi Visha. Ayurveda toxicology consider some certain conditions equivalent to poison which are **unique and significant** as Virruddha aahar (incompatible food materials), Aam Vish, Dooshi visha, Gar Visha. Many of the disorders prevalent in the current scenario are attributed to unconventional causes, such as the indiscriminate use of pesticides and fertilizers in agriculture, food adulteration, the inclusion of food additives, preservatives, and sweeteners, as well as the widespread use of various synthetic drugs. These unconventional factors can lead to a range of diseases, including cancer, cardiovascular issues, neurological disorders, liver and kidney problems, psychological conditions, and skin ailments. In modern science, the emphasis is on oxidative stress and symptom-based treatment, while in Ayurveda's Agad tantra, the focus is on restoring balance through methods like Panchakarma (purification of the body) and Agadpana (consumption of antitoxic formulations). It's now essential to explore and apply the principles of Agadtantra, a precious gift to humanity, not only for treating poisoning conditions but also for enhancing the quality and longevity of life.

## REFERENCES

- [1] Dr. Mamata P. Adhao, Text Book of Vyavahara Ayurved Evam Vidhivaidyak, (Forensic Medicine) & (Medical Jurisprudence), Meherbaba Publishers, Nagpur, First edition, 2020 pp.2
- [2] Kaviraj Ambikadatta Shastri, Sushrutasamhita of Maharshi Sushruta, kalpsthan- Capter 6 Verse 32, Chaukhamba Sanskrit Sansthan, Varanasi Vol 1, Reprint 2018, pp. 70
- [3] Dr. Ravidatta Tripathi, Asthag-Samgraha of Srimad Vrddhavagbhata, Sutrasthan Chapter 1, Verse- 10 Chukhambha Sanskrit Pratisthan, Delhi, reprint 2001, pp. 5
- [4] Kaviraj Ambikadatta Shastri, Sushrutasamhita of Maharshi Sushruta, kalpsthan, Chaukhamba Sanskrit Sansthan, Varanasi Vol 1, Reprint 2018, pp.1-101

- [5] Dr. Bramhanand Tripathi, Dr.Ganga Sahay Pandey, Charaksamhita of Agnivesh, Chikitsasthan, chapter 23 Chukhambha Surbharati Prakashan Varanasi, Vol.2,Reprint 2018, pp. 745-803
- [6] Dr. Brahmananda Tripathi Asthang Hruday of Srimadvagbhata,Uttarsthan Vishapratishedhadhyay, Chapter 35,Reprint 2011 Chaukhamba Surbharati Prakashan,pp.1143-1160
- [7] Pandit Kashinath Shastri- Editor; Ras Tarangini, chapter 24; Reperint; 2004, Motilal Banwaridas, New Delhi. Pg. No. 676.
- [8] Dr. Bramhanand Tripathi, Dr.Ganga Sahay Pandey, Charaksamhita of Agnivesh, Chikitsasthan, Chapter 23 Verse 5 Chukhambha Surbharati Prakashan Varanasi, Vol.2,Reprint 2018, pp. 746
- [9] Dr.Ravidatta Tripathi, Asthag-Samgraha of Srimad Vrddhavagbhata, Sutrasthan, Chapter 1, Verse- 10 Chukhambha Sanskrit Pratisthan, Delhi,reprint 2001,pp. 7
- [10] Dr. Bramhanand Tripathi, Dr.Ganga Sahay Pandey, Charaksamhita of Agnivesh, Chikitsasthan, Chapter 23 Verse 4-6 Chukhambha Surbharati Prakashan Varanasi, Vol.2,Reprint 2018, pp. 746
- [11] Kaviraj Ambikadatta Shastri, Sushrutasamhita of Maharshi Sushruta, kalpsthana- Capter 3 Verse 18-22, Chaukhamba Sanskrit Sansthan, Varanasi Vol 1, Reprint 2018, pp.41
- [12] Dr. Brahmananda Tripathi Asthang Hruday of Srimadvagbhata,Uttarsthan Vishapratishedhadhyay, Chapter 35,verse 5,Reprint 2011 Chaukhamba Surbharati Prakashan, pp. 1150
- [13] Ayodhyaprasad Achal Agadtantra, Revised by Dr.Jina Pattanaik,Deepak Yadav Premchand,1<sup>st</sup> edition 2019,Chaukhamba Surbharati Prakashan Varanashi pp.7
- [14] Kaviraj Ambikadatta Shastri, Sushrutasamhita of Maharshi Sushruta, kalpsthana- Capter 2 Verse 10, Chaukhamba Sanskrit Sansthan, Varanasi Vol 1, Reprint 2018, pp 18
- [15] Ayodhyaprasad Achal Agadtantra, Revised by Dr.Jina Pattanaik,Deepak Yadav Premchand,1<sup>st</sup> edition 2019,Chaukhamba Surbharati Prakashan Varanashi pp.60
- [16] Dr. Brahmananda Tripathi Asthang Hruday of Srimadvagbhata,Uttarsthan Vishapratishedhadhyay, Chapter 35,Reprint 2011 Chaukhamba Surbharati Prakashan,pp.1143
- [17] Dr. Bramhanand Tripathi, Dr.Ganga Sahay Pandey, Charaksamhita of Agnivesh, Chikitsasthan, Chapter 23 Verse 15 Chukhambha Surbharati Prakashan Varanasi, Vol.2,Reprint 2018, pp. 749
- [18] Dr. Bramhanand Tripathi, Dr.Ganga Sahay Pandey, Charaksamhita of Agnivesh, Sutrasthan, Chapter 26 Verse- 69, Chukhambha Surbharati Prakashan Varanasi, Vol.1,Reprint 2018, pp. 755
- [19] Dr. Bramhanand Tripathi, Dr.Ganga Sahay Pandey, Charaksamhita of Agnivesh, Chikitsasthan, Chapter 23 Verse 14 Chukhambha Surbharati Prakashan Varanasi, Vol.2,Reprint 2018, pp. 749
- [20] Dr. Brahmananda Tripathi Asthang Hruday of Srimadvagbhata,Uttarsthan Vishapratishedhadhyay, Chapter 35,Reprint 2011 Chaukhamba Surbharati Prakashan,pp.1150
- [21] Dr. Bramhanand Tripathi, Dr.Ganga Sahay Pandey, Charaksamhita of Agnivesh, Chikitsasthan, Chapter 23 Verse 238, Chukhambha Surbharati Prakashan Varanasi, Vol.2,Reprint 2018, pp. 754
- [22] Kaviraj Ambikadatta Shastri, Sushrutasamhita of Maharshi Sushruta, kalpsthana- Capter 2 Verse 25-26, Chaukhamba Sanskrit Sansthan, Varanasi Vol 1, Reprint 2018, pp 32
- [23] Kaviraj Ambikadatta Shastri, Sushrutasamhita of Maharshi Sushruta, kalpsthana- Capter 2 Verse 32-33, Chaukhamba Sanskrit Sansthan, Varanasi Vol 1, Reprint 2018, pp 34
- [24] Kaviraj Ambikadatta Shastri, Sushrutasamhita of Maharshi Sushruta , kalpsthana- Capter 2 Verse 50-52, Chaukhamba Sanskrit Sansthan, Varanasi Vol 1, Reprint 2018, pp37
- [25] Dr. Mamata N. Ganorkar (Adhao), Concept Of Food Poisoning According To Ayurveda - An Overview IJIPSR / 5 (05), 2017, ISSN (online) 2347-2154,pp. 120-130,
- [26] Dr. Bramhanand Tripathi, Dr.Ganga Sahay Pandey, Charaksamhita of Agnivesh, Sutrasthan, Chapter 26 Verse- 81 , Chukhambha Surbharati Prakashan Varanasi, Vol.1,Reprint 2018, pp.496-499
- [27] Dr. Mamata N. Ganorkar (Adhao), Concept Of Food Poisoning According To Ayurveda - An Overview IJIPSR / 5 (05), 2017, ISSN (online) 2347-2154 pp. 120-130
- [28] Acharya Priywat Sharma, Astang hrudaya ,Sutrasthan, Chapter 13 Verse 23-26 Chaukhamba orientaliya, Varanasi, reprint 2009, pp113-116
- [29] Kaviraj Ambikadatta Shastri, Sushrutasamhita of Maharshi Sushruta , kalpsthana- Capter 3 Verse 50-52, Chaukhamba Sanskrit Sansthan, Varanasi Vol 1, Reprint 2018, pp 38-40
- [30] Dr. Krishna Singh, An Ayurvedic Approach To Understand Environmental Toxicology wjpmr, 2020,6(2) pp. 32-34