



Review Article

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Visopayogiya Adhyaya-A Cross Sectional View with Special Reference to Antidotes

Arun Mohan MK¹, Sariput Bhosikar², Gundappa S Rao³

¹ MD (Agadtantra) Ph.D. Scholar & Ph.D. Guide, Department of Agadtantra, Parul Institute of Ayurved (PIA), Vadodara, Gujarat-391760, India

² MD (Agadtantra) Ph.D. Scholar & Ph.D. Guide, Department of Agadtantra, Parul Institute of Ayurved (PIA), Vadodara, Gujarat-391760, India

³ MD, Ph.D. Professor & Ph.D. Guide Agadtantra, Parul Institute of Ayurved (PIA), Vadodara, Gujarat-391760, India

ABSTRACT

Antidotes are pharmaceuticals that are used to combat the effects of poisons. They work by modifying the toxin's chemical structure or interfering with the toxin's adherence to biologic sites; for either instance, the inverse interferes with the neurotoxin to decrease morbidity and mortality rates. Antdotes and Prativisha are having some resemblance according to our Ayurvedic science. Astanga Sangraha of Vridha Vagbhata brings about the concept of giving poisons for the treatment of poisons. The concept of visha upayogiya is a new and unique idea which was put forward by Acharya. The indications, procedure and contra indications of the Visha upayogiya dravyas are mentioned nicely in this chapter of Astanga Sangraha. All the 16 complications of visha as well as the minor complications of the poison can be corrected with the application of the visha dravyas in proper and appropriate manner. This paper highlights the importance of Visha Upayogiya adhyaya, prativisha and the concept of antidotes and the relation between all the three.

Keywords: Antidotes, Astanga Sangraha, Prativisha, Visha Upayogiya, Visha Dravyas.

INTRODUCTION

Astanga Sangraha is one among the Brihatrayee grantha of Ayurveda. It was written by Acharya Vridha Vagbhata. Astanga Sangraha has given a very good position for the Visha and Visha related aspects especially Agadtantra- the Ayurvedic Toxicology branch [1]. Various stanas are mentioned in the textbook, one among the sthana is the Uttarasthana. Chapter forty eight of the Uttarasthana of Astanga Sangraha deals about Visha Upayogiya Adhyaya. Visha Upayogiya Adhyaya deals with the use of visha in the treatment of poisons. When the effects of poisoned are not relieved by curative prayers and medicine administrations, counter poisons must be introduced after the fourth paragraph well before the eighth stage [2]. Counter poison can be compare with the prativisha of Agadtantra. Prativisha is well defined in the Agadtantra as the Ayurveda classics mentions that in the treatment of Sthavara Visha Jangama visha can be used as the Prativisha and vice versa [3].

Sthavara Visha vegetable and mineral poison jangama visha (animal poison) has similar features to kapha and grows upwards, but kapha poison has characteristics comparable to pita and negative reinforcement, which is why the two types of venom with contradictory qualities when joined destroy each other [4]. As a result, somebody bitten by a snake or other dangerous plant should really be given deadly plant medicines both externally and internally. A snake bite should come to everybody who has taken poison of phytochemical composition. As per Acharya's concept, nothing is equal to poison to neutralise the poison [5].

Dose of Poison to be Administered

For a snake bite, vegetable poison of the quantity of four, six and eight the maximal, intermediate, and maximal dosages are alluded to as yava. The dose for people that are suffering severe vegetable contamination can be adjusted as appropriate. It will become two yava for a physician bitten by a kita, and for a doctor bitten by a scorpion. No countering poison should really be given if the poisoned is isolated in the bloodstream [6].

Therapeutic efficacy of anti-venom throughout the event of a spider bite is really not recommended, but neither is pinpointing the precise coordinates of the bite. It should be punctured and then treated without antidote poison. Whenever used to a case of sickness, counter poison functions as amruta, without

***Corresponding author:**

Dr. Arun Mohan MK

MD (Agadtantra) Ph.D. Scholar & Ph.D. Guide, Department of Agadtantra, Parul Institute of Ayurved (PIA), Vadodara, Gujarat-391760, India
Email: drarunmohanmk@gmail.com

antidote poison. Whenever used to a case of sickness, counter poison functions as amruta, although when applied to a non-poisonous patient, it behaves as a poisoned. As a result, a practitioner should take the opportunity to determine the introduction of poisoning [7].

Common Drugs of Use

Saktuka, Mastuka, Sringi, Valaka, Sarsapa and Vatsanabha are considered to be safe acting Counter poisons which have unctuous, compact and heavy qualities.

Procedure of taking Counter poisons

The patient should be persuaded to drink ghee processing with bharngi, dadhi, dhumottha, sariva, and tanduliyaka or with agaradhuma, manjista, and yasti or lick the granules of arjuna twak mingled with madhu and kshoudra after obtaining potential counter poisoning [8].

The patient who has undergone the ghratapana done virchana properly, and is on the Healthy foods, who is pure in the mind should be administered counter poison in the morning especially in the winter season and spring season generally, and in the summer only in case of emergency situations. This is the procedure for taking the counter poisons [9].

Contraindications

Counter poisons should not be given in rainy season and on the cloudy days. It should never be used on the people who are in anger, suffering from diseases of pitta, the impotent patients, the king, those who are suffering from hunger, thirst, exertion, sun, light, long walk or diseases, the pregnant women, children, the old person, those who are having rookshatwa in excess, and those who are suffering from the diseases in the vital organs [10].

Examples of Visha Upayogiya

- In peetha visha, Visha can be given with Ksheera, Kshoudra and ghrita.
- Mritasanjivanam, if the visha is given together with sindhuvara and Tagara.
- In Aakhuvisha, Visha can be given with Sirisha puspa and tagara
- Samastha visha Nashana, visha can be given with devadaru, natam, mamsi, dramili, bakuchi and kusta.
- In unconscious condition, as Nisanjabodhanam, we can use visha with manasila, Anjana, haritala, sinduvara, devadaru, manjista and kumkuma.

Snake Venom Application

A stick binded with mamsa and is shown in front of a poisonous sarpa and make it to bite on this mamsa. After the snake has bitten, this mamsa should be powdered after drying. This powder will be mixed with water and given to the vishapeeta patient once if all the other medicines fails [11].

Haratala Prayoga

Haratala is Arsenic Trisulphide, a mineral poison. It should be done

bhavan in gomutra for 3 days. After that it can be used for internal application.

Anupana of Haratala Sevana

- Used with mastu- Vatajwarahara due to poisons.
- Used with ksheera- Pittajwarahara due to poisons.
- Used with mutra- Kaphajwarahara due to poisons.
- Used with Triphala- Sannipatajwarahara due to poisons.

Anjana Prayoga

Anjana is also a mineral compound containing heavy metals like lead. It can also be used in the visha conditions. Anjana should be done bhavana in dhatri rasa for many times and when used with sankha bhasma will reduce timira of visha origin which is deep and severe [12].

Vatsanabhi prayoga

In Vishamajwara, lodhra, Chandana, vacha, sarkara, ghrita, madhu, ksheera together with vatsanabhi should be macerated and given. It can cure conditions of vishama jwara and jeerna jwara which is developed as a result of visha upayoga [13].

Bhallataka, agni, samyaka, vatsanabhi and gomutra lepa is used in the condition of skin diseases such as vicharchika, dadru, sataru and katabhi.

Importance of Visha Upayogiya

He who frequently swallows poison (counter poison) should never be scared about poison delivered by enemies, manufactured toxic compound from spider, serpent, or rat bites, old age, death, possession by an evil spirit [14].

Prativisha

Prativisha are the remedy that can be a Agada or herb or a mineral that can be given in the condition of poisoning. A prativisha can be a comparatively non-toxic visha also, which can neutralize the effect of the existing effect of poison. The prativisha concept is well explained in the Charaka Samhita, Chikitsa stana, 23rd Chapter. In this chapter the Chaturvimshati Chikitsa Upakrama of visha is mentioned. Prativisha is one among the chaturvimsathi visha upakrama. It is the concept of giving antidotes in the condition of poisoning [15].

Antidotes

An antidote is a substance that can counteract a form of poisoning. Antidotes are pharmaceuticals that have been used to counteract the effects of poisons. They function by changing the composition of the toxin or interfering with toxin attaching to biologic locations; either in that instance, the antidote seeks to minimize morbidity by interacting with the poison or mortality. It is essential in some kind of severe poisoning like vatsanabhi, paracetamol poisoning, heavy metals like Arsenic, zinc, lead, mercury etc, even it can be used in case of animal bite poisoning like snake bite cases, scorpion bites etc [16]. An antidote can act in a number of ways examples include:

- Limiting-absorption.
- Sequestering the poison.

- Toxic metabolite conversion limitation.
- Increasing tissue dispersion.
- Taking the chemical away from either a receptors or contending for it.
- Getting rid of the hazardous influence.
- Ornamental detoxi-fication.

Antidotes are the one which is included in the General Management of poisoning. In the case of potent poisons, especially heavy metals which are difficult to treat like Arsenic compounds, lead compounds, mercury, non-metallic compounds like organo phosphorous etc can also well treated with the use of antidotes. Vatsanabhi like plant poisons also can be treated with antidotes like Tankana(borax). Being a less potent toxic compound, antidotes make neutral bonds when react with heavy metals. They together make non toxic bonds which in turn will be eliminated through the kidney via urine ^[17]. Many more compounds are also present as antidotes.

Octreotide

Octreotide is a long-acting chemical analogue of substance p that has been used in toxicology to block the auxin effects of spironolactone and miglitinide oral hypoglycemics. Therapies and miglitinides enhance cytoplasmic ATP quantities, which raises intracellular calcium concentration levels, through coupling to adenosine triphosphate (ATP)-sensitive potassium circuits on the beta-islet cell of the pancreas. Octreotide counteracts pancreatic release of insulin by inhibiting cAMP synthesis via G-protein-coupled channels, which diminish extracellular influx of calcium ions and hence insulin sensitivity ^[18].

Sulfonylureas and some other exogenous sources of secretion of insulin produce hypoglycaemia; therefore octreotide is being used as a supplement to dextrose to treat hypoglycaemia. Octreotide reduces the demand for additional dextrose by limiting the development of hypotension.

There are no established randomized trial results demonstrating octreotide's distinct advantages in patients suffering sulfonylurea-induced hypoglycaemia. The efficacy of everolimus to lower dextrose consumption in fasting individuals on spironolactone was proven in a research of human patients. Sulfonylurea-induced hypoglycaemia was corrected by octreotide in both parents and kids, so according case studies. Due to suboptimal oral glycogen intake and accompanying kidney damage, Vallurupalli observed two patients with sulfonylurea-induced hypoglycaemia and congestive who had blood glucose values of 31 and 36 mg/dL, correspondingly. Both patients maintained hypoglycaemic spite of repeated dextrose doses ^[19]. Diarrhoea and gastrointestinal pain seem to be the most common side effects linked with the several doses of octreotide. Because trigger the release has a relatively benign potentially negative profile and used for a short period of time, it is preferred that it be considered in whatsoever patient who develops recurrent hypoglycaemia after a small treatment of hypertonic dextrose (0.5–1 g/kg) when the clinical manifestations includes sulfonylurea toxicity. Following ingestion of i.e. dextrose, the patient should really be fed. In the scientific literature, intraperitoneal administration has been the most frequently mentioned technique of octreotide administration. The normal adult dose of octreotide is 50 mg delivered subcutaneously each six hours as necessary ^[20].

When combined with an insulin secretatogue, octreotide decreases pancreatic release of insulin. The delivery of endogenous dextrose to cure hyperglycaemia generated by consumption of an oral hypoglycaemic stimulates the pancreas to release increased insulin, which might increase the hypoglycaemia for otherwise healthy individuals (i.e., patients without diabetes) with only an intact pancreas. Although a few physicians suggest starting critical component during the first anti-hyperglycaemic episode, the majority suggest starting it after the second hypoglycaemic episode. Determining appropriate initial number of treatment of adults doses and the period of observation after the last dosage of octreotide should be aided by that of the duration of action of something like the ingested xenobiotic inducing hyperglycaemia ^[21].

LITERATURE REVIEW

According to the researcher W. Robertson ^[22], the poisoning and toxicology handbook is a one-of-a-kind source of information that includes a comprehensive reviews of over 900 drug substances. It also includes the most up-to-date relevant data on medicinal, biotechnological, herbal, and non-medicinal agents, along with antidotes. The book is a compendium of important information, increasing its dimension and reach with studies of new advanced pharmaceuticals, chemicals, and environmental hazards, including drugs that have just been authorised by the FDA. The book is divided into seven parts, each of which lists the addresses and phone numbers of poison control centres around the part of the world, as well as government agencies that provide pharmacology information and cheapest method technology solutions. It explains diagnosing and analysing processes, examines the efficacy of folk remedies, and contains a complete discomfort index. The special themes part encompasses extensive therapeutic interventions, hospital preparations recommendations, and policy proposals and best practice for toxicology management. This print version brings you up to pace in one of biomedical science's most fascinating and increasing topics.

C. P. Stewart ^[23], illustrates that Lung cancer starts as a concentrated alteration of chronically traumatized epithelial cells, with passive smoking becoming one of the most well-known causes. Tobacco smoke contains numerous components in addition the oxidants, and it is astonishing because not every heavy smoker acquires cancer. This highlights uniqueness in carcinogen resistance, and there is suggestion that metabolic mechanisms play a role throughout this variability. Genotoxicity metabolism, and even the multistep process of neoplasia that follows, is regulated by host variables and controlled by an equilibrium of opposing forces, such as biotransformation with excretion, radical production including scavenging, and Oxidative damage to dna and repair. This means that cancerous substances can really only cause tumorigenesis in concentrations large enough to overpower detoxifying capabilities. Glutathione is strongly known to have an important service in the detoxification of xenobiotics in this scenario. N-acetylcysteine (NAC), an amino glutathione and precursor of internal cysteine and cysteine, has been proven to be a potent remedy for painkiller intoxication, as well as containing key chemo protective effects. In this article, the locales and procedures of NAC's therapeutic effects are discussed, with a concentrate on its anti - carcinogenic characteristics.

T. Michael *et al* [24], three people and five rodent trials are often used to study the hemodynamic consequences of acute antimalarial poisoning. The prescription appears to function as a powerful myocardial toxin, diminishing cardiac output as well as inducing transmission bradycardia and arrhythmias. The two situations provided are, as far as we know, that the very first two human occurrences to demonstrate the electrocardiogram (ecg. abnormalities generated by acute chloroquine intoxication. The ECG abnormalities in accidental exposure in dogs are presented in this report. Adrenaline has now been discovered to be an efficient antidote and preventative medication. It is recommended that the following steps be taken to avoid accidental death or deliberate poisoning. These highlight the product's dosing based on weight but instead of seniority. Small quantities of quinidine-like drugs would prevent drug peculiarities, but they do not appear to be practicable. Given the large use of chloroquine and its rising administrations, it's worth thinking about the preventive procedures indicated on a worldwide basis.

DISCUSSION

Antidotes can be correlated with the prativisha. Prativisha means that which is given in the final stages of visha chikitsa once if all other procedures fails. Visha Upayogiya is a concept in which we are applying the particular poisons only after a particular stage, after fifth and before commencement of seventh vega. This can be assorted as a last try in case of poisonous situations. Carefully we have to carry out the visha-upayogiya drugs as all of them are heavily poisonous. But the prativisha cannot be considered that much poisonous, it is not making that much threat to the life. As we have a lot of drugs in the context of Malayalam Visha Vaidya granthas like we are using tamboola, vibhitaki etc in certain conditions as a prativisha. Antidotes are safe, can be compared with Prativisha and cannot be considered to be as Visha Upayogiya drugs Of Astanga Sangraha. Hence we can say that Visha Upayogiya concept is a unique concept of the Ayurveda.

CONCLUSION

Acharya Vagbhata in Astanga Sangraha has very neatly mentioned about the concept of visha upayogiya. We have discussed here all about the different aspects related to the Visha Upayogiya. Its procedures, Examples, usage of various drugs with anupana etc. Prativisha concept we can correlate with this visha upayogiya concept, but it have some differences. Antidotes are the modern remedy for the treatment of poison which is having resemblance to the prativisha concept of Agadtantra. An examination of previous medication-related occurrence reports involving the use of remedies reveals several aimed at retaining flaws that might also obstruct the most appropriate use of these drugs. To ease symptoms patients who require remedies, early diagnosis with toxic symptoms, an appropriate inventory of antidotes, and indeed the development of information resources to guide timely use as well as crucial monitoring are also all required. Clinicians in all hospital environments are told to follow the bulletin's guidelines to make sure that all forms of remedies are widely available and that these medicines are delivered and continually monitored.

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Conflict of Interest

None declared.

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