Universal Journal of Pharmacy
Take Research to New Heights

Review Article
ISSN 2320-303X

VISHA DRAVYAS AND THEIR MEDICINAL PROPERTIES - A REVIEW

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Received 28-01-2020; Revised 26-02-2020; Accepted 24-03-2020

ABSTRACT

The word visha itself conveys that these are the drugs which take prana (life) of the person. Hence they are always looked in a pessimistic way rather than an optimistic approach. Though they are deadly but they also have potential benefits when used in a correct manner. Hence acharyas explained different formulations in which most of the times visha dravyas are added after proper shodhanadi samskara. Vishas are said to be yogavahi, so when added to a formulation they not only enhance the quality of the formulation but also help in quicker action and relieve the conditions.

Keywords: Agadtantra, Visha Dravyas, Toxicity, Rasaushadhis, Akhuvishaha.

INTRODUCTION

Agadtantra is the branch of Ayurveda which is always depicted as the science which deals with the different sources of poison, types of poison, their signs and symptoms of poisoning, complications and their management[1]. Two types of visha i.e., Akritrim visha and Kritrim visha are explained in Agadtantra. Sthavar visha (plant origin) & Jangam visha (animal origin) are two types of Akritrim Visha (natural poison). Dushivisha & Garavisha (cumulative poison) are two types of kritrim visha (artificial poison) which are formed from the combination of poisonous and non-poisonous substances, respectively. Such types of Visha after getting entry into the body produces toxicity[2].

Visha (POISON) is the substance which when administered prove fatal either sooner or later. This fatality is due to the qualities of visha that are exactly opposite to the nature of oja which is the vital component of life and causes destruction of life. Many visha are used in the formulations in order to increase the potency, bioavailability, therapeutic values. Hence Ayurveda highlights that when visha is utilized in a proper way can become the best medicine. Though basically they are visha, when properly administered along with pathyas they act as vishaghna, rasayana in many conditions. The present review paper discusses about visha dravyas and their medicinal value[1].

Visha word is derived from the root "vis" (vyaptau) having "kt" pratyaya which means to encompass or to get fully occupied. Visa dravya can get circulated in the whole body immediately after ingestion. Drugs which on internal use produces a sense of sadness, sorrow, and depression in the minds of mankind, hence they are known as Visha – "Visada jananatvisani" It may cause death also. Visha is a substance which produces very harmful effects on mind and body. The synonyms of Visha is Halahal, Garala, Kalkuta, Brahmputra, Darada, Kakola, Malina and Kambal[3]. Inspite of their fatal effects, many visha dravyas are used as medicines e.g. many of the poisonous plants as well as rasaushadhis which are reported for their toxic nature but they are used after proper processing, widely in the treatment without any adverse effects as they are effective in small doses to cure the diseases[7].

Review:

Many drugs have been highlighted with specific indications in combating particular type of envenomation or poisoning. Jeemutaka (Luffa echinata Roxb.) has been attributed the synonyms Garaagari and Akhuvishaha in Dhanvantari nighantu emphasizing its role as an important drug in the management of poison.

Ankola (*Alangium salviifolium*):

Ankola

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It is the only single drug mentioned for rabies in Dhanvantari Nighantu which is also useful in rat poison. Tankana kshara (Borax) is to be considered as one of the most important antidote in all vegetable poison.

The drug Chakshushya (Cassia absus) is the only drug mentioned as an antidote for both animal and vegetable poison. Achyranthes aspera, Eclipta alba, Curcuma longa, Alangium salvifolium, Peristrophe paniculata, Amarathus spinosus, Clitorea ternatea, Aristolochia indica/bracteata, Mesua ferrea etc mentioned in the nighantu are also used by local healers or tribals to treat snake bite.[4] The tuberous roots are the official part of *Vatsanabha* **(***Acontium ferox*Wall.;*Ranunculaceae***).** It contains aconite, an alkaloid, which is mainly responsible for its toxic effect. In Ayurveda it is used as an ingredient in many compound formulations, which are indicated for the management of fever, rheumatic pain, common cold, indigestion etc[5].

It is reported that due to *shdhana* technique, the active principles of *vatsanabha* lose their depressant action on the heart and instead become stimulant having mild cardio-tonic property. *Vatsanabha* treated with cow' urine and cow's milk potentiated barbiturate hypnosis, and the effects were more pronounced than that produced by crude aconite. *Vatsanabha* treated with cow's urine and cow's milk was found to possess anti-inflammatory effect and could effectively block the phlogestic action of carrageenin. The result when compared with that of hydrocortisone acetate showed that the drug treated with milk produced equal response whereas urine treated drug gave a poor response. Aconite treated with cow's urine had a more pronounced antipyretic effect than Paracetamol. The onset of antipyretic effect of Paracetamol and aconite treated with cow's milk was found to be quicker but the duration of action was short, whereas the effect of urine treated aconite was more sustained. *Vatsanabha* treated with cow's urine and cow's milk produced statistically significant analgesic activity. The analgesic effect of urine treated and milk treated aconite although was belated, yet persisted for a longer time.[6]

Bhallataka (*Semecarpus anacardium Linn*.):

Bhallataka Fruits

The fruits are the official part of *Bhallataka* (*Semecarpus anacardium*Linn.;*Anacardiaceae*) and reported for containing Bilwanol, Anacardiolas the major chemical constituents. In Ayurveda it is administered internally in the cases of *nadi dourbalya* (nervous debility), *amavata* (acute rheumatism), *Apasmara* (epilepsy), *gridhrasi* (sciatica), *swasa* (asthma), *Kustha* (Skin diseases), *arsha* (piles), *grahan*i (Irritable bowel syndrome), *jwara* (fever), *svitra* (leucoderma), *agnimandya* (loss of appetite), *krimi* (helminthic disorder) etc. Tarry oil present in the pericarp of the fruit causes blisters on contact. The major constituent of the Tarry oil is anacardic acid and bhilawanol, a mixture of 3-n-pentadec (en)ylcatechols. Bhilawanols A and B are known as Urushiols, and also, anacardic acid is closely related to Urushiol. Urushiol-induced contact dermatitis during different stages *Shodhana* (detoxification procedures) of *Bhalltaka* fruit has been reported[7].

Dhatura (*Datura metel Linn*. & *Datura innoxia Mill*.):

Dhatura

The seeds are the official part of *Dhatura*. The seeds of *Datura metel* Linn, *Datura innoxia* Mill; *Solanaceae* are considered as the botanical source of *Dhatura*. It contains tropane alkaloids like hyocyamine, hyocine etc. as the major chemical constituents which are responsible for its toxic effects and used for the management of helminthic disorders, breathing disorders etc[8,9].

Langali (*Gloriosa superba Linn*.):

Roots are the official part of *langali* **(***Gloriosa superba* Linn.*Liliaceae***),** and contains colchicine which has been reported for its toxic effects. In Ayurveda*langali* is indicted for the management of *aparapatana* (removal of placenta), *mudhagarbha* (dead foetus), *vrana* (wound), *agnimandya* (loss of appetite), *jvara* (fever), *grahani* (Irritable bowel syndrome), *kasa* (cough), *hikka* (hiccough), *kushtha* (leprosy), *shvitra* (leucoderma) etc[10].

Gunja (*Abrus precatorius Linn*.):

Gunja Seeds

The seeds are the official part of *Gunja (Abrus precatorius* Linn, *Fabaceae)* and in Ayurveda it is used for the management of *kustha* (skindisease*), kandu (*itching*), kasa (*cough*), vrana (*wound*), indralupta* (alopecia*),* etc. It contains abrin, abraline, hypaphorine as the chief chemical constituents[11].

Rakta chitraka *(Plumbago rosea Linn.)* & Sweta chitraka *(Plumbago zeylanica Linn.):*

Plumbago rosea

Plumbago zeylanica

Roots are the official parts of *Rakta chitraka* (*Plumbago rosea* Linn.*Plumbaginaceae*) and *Sweta chitraka* (*Plumbago zeylanica* Linn,; *Plumbaginaceae*). It contains plumbagin as the chief chemical constituent, which is responsible for its corrosive effects. The red variety (*Rakta chiktraka*) is considered to be more corrosive than the *sweta* one. In Ayurveda *Chitraka*is used for the management of *agnimandya* (loss of appetite), *arsha* (piles), *grahani* (Irritable bowel syndrome) etc[12].

Karaveera (*Nerium indicum* Mill.):

Roots are the official parts of *Karaveera* (*Nerium indicum* Mill, Apocynaceae) It contains oleandrin as the chief chemical constituent and in Ayurveda, it is used for the management of *krimi* (helminthic disorder), *kandu* (itching), *kustha* (skin disease), *vrana* (wound) etc[12].

Jayapala (*Croton tiglium* Linn.):

Jayapala seeds

Dried seeds are the official parts of *Jayapala* (*Croton tiglium* Linn.*Euphorbiaceae*). It contains resins, phorbol-12-tiglate-13-decanoate (I), tiglyol etc. as the chief chemical constituent and in Ayurveda, it is used for the management of *jwara* (fever), *udararoga* (abdominal disorders), *kustha* (skin disease), *krimi* (helminthic disorder) etc[13].

Vacha (*Acorus calamus* Linn.):

Vacha Rhizomes

Rhizomes are the official parts of *Vacha*(*Acorus calamus* Linn.Araceaea). It contains asamyl alcohol, asarone, eugenol etc. as the chief chemical constituent and is used for the management of *sula* (pain), *apasmara* (epilepsy), *swasa* (asthma), *kasa* (cough), *unmada* (mental disorder) etc[14].

Cerbera odollam Gaertn. (*Apocynaceae*):

Cerbera odollam Gaertn

(Pong Pong Tree, Indian Suicide Tree, Sea Mango)

In Malaysia, rheumatism is treated with embrocations of the fruits. The seeds are poisonous and have been used to poison rats and dogs. The seeds are also narcotic. In Indonesia, oil obtained from the seeds is rubbed on the body as remedy for colds, scabies, and rheumatism. In the Philippines, oil of the seeds is also used to treat rheumatism. It is used in Burma as an insecticide or insect repellent when mixed with other oils. The bark, latex and roots are used as purgatives and emetics in India. Also used as antineoplastic and antipsychotic[15].

Jatropha curcas L. (*Euphorbiaceae*):

Jatropha curcas L. (Barbados Nut, Physic-nut)

The leaves are used to treat scabies, parasites and as a rubefacient for paralysis and rheumatism. The fruit is used for dropsy and anasarca. The seed oil is emetic, laxative, purgative and for skin ailments. The latex is applied to bee and wasp stings, to dress ulcers, sores and inflamed tongues. It is also used as a haemostatic agent, and to treat whitlow, carbuncle and sores in mouth. The roots are used in the form of a decoction as mouthwash for bleeding gums and toothache. Also used as antidiabetic, anti-inflammatory, anticancer, antiprotozoal, antiviral, coagulant, abortifacient, haemolytic, lipolytic, insecticidal, molluscicidal and wound healing[16].

Phyllanthus amarus Schum. and Thonn. (*Euphorbiaceae*):

Phyllanthus amarus (Pick-a-back, Carry Me Seed, Ye Xia Zhu)

The aerial part of the plant is used for various conditions. In Chinese medicine, the plant is made into a tea to cure kidney problems, venereal diseases, stones in the kidneys and bladder. The Malays use it to increase menstrual flow, reduce fever and cure colic. It is used by the Indians as a fish poison. Indians also use the plant as liver tonic to treat liver ailments, ascites, jaundice, diarrhoea, dysentery, intermittent fever, conditions of the urogenital tract, eye disease, scabies, ulcers and wounds. In Vietnam, it is used to induce sweating, and increase menstrual flow. It is also prescribed for toothache, muscle spasms and gonorrhoea. It is considered a diuretic, colic remedy and abortifacient in Southeast Asia. It is also used as analgesic, antibacterial, antidiarrhoeal, antifertility, antifungal, anti-inflammatory, antineoplastic, antioxidant, antiplasmodial, antiviral, diuretics, hepatoprotective, hypoglycaemic, antiulcer, Antimutagenic, Insecticidal and Radioprotective[17].

Solanum nigrum L. (*Solanaceae*):

Solanum nigrum L.(Black Nightshade, Terong Meranti, Poison Berry)

The stem, leaves and roots are used as a decoction for wounds, tumours and cancerous growths, sores and as an astringent. They are also used as a condiment, stimulant, tonic, for treatment of piles, dysentery, abdominal pain, inflammation of bladder, relief of asthma, bronchitis, coughs, eye ailments, itch, psoriasis, skin diseases, eczema, ulcer, relief of cramps, rheumatism, neuralgia and expulsion of excess fluids. The roots are used as an expectorant. The plant has yielded medicines for sore throats, coughs and digestive problems. It has also been used as an agricultural insecticide. Europeans in Africa used the plant to treat convulsions. It is used by the Africans for treating headache, ulcers and as a sedative. The whole plant is used for the treatment of dermatitis, inflammation, heavy female discharge, diarrhoea and dysentery. It is also used as a diuretic and febrifuge. Whole plant is decocted for abscesses, cancer of the cervix, inflammation, leucorrhoea and open sores. Young shoots are consumed as virility tonic for men and to treat dysmenorrhoea in females. In Indochina, the leaves are used as purgative and antihypertensive, while the fruits are used as laxatives. Also used as antibacterial, anticancer/antineoplastic, antiulcer, antinociceptive, anti-inflammatory, antioxidant, antiviral, hepatoprotective, hypolipidaemic, antimutagenic, enzyme modulation, larvicidal, molluscicidal and parasiticidal[18].

Thevetia peruviana (Pers.) K. Schum. (*Apocynaceae*):

Thevetia peruviana
(Yellow Oleander, Trumpet Flower)

Used as an abortifacient, in malaria, leprosy, indigestion, ringworm, venereal disease. Used in India as an astringent to the bowel, useful in urethral discharge, worms, skin diseases, wounds, piles, eye problems and itch. Used in continental Europe and is considered particularly useful in mild myocardial insufficiency and digitalis intolerance. Its bark is used as an emetic, febrifuge, insecticidal, as antiarrhythmic, antifungal, hepatoprotective, larvicidal, molluscicidal, and cardiotonic[19].

Ricinus communis L. (Euphorbiaceae):

Ricinus communis (Castor Oil Plant, Castor Bean)

Its leaf poultice is applied to boils and sores in India; to treat headaches and fever in Hawaii. The leaves and roots are used in a decoction for anal prolapse, arthritis, constipation, facial palsy, lymphadenopathy, strabismus, uteral prolapse, cough, and also as a discutient and expectorant. The heated leaves are applied to gout and swellings as well. The leaves and oil are used for dermatological purposes in Nigeria. Its seeds are used to treat abscesses and skin eruptions, deafness, headache, skin problems, bleeding, constipation, boils, piles and to promote labour. They are rubbed on the temple for headache, powdered for abscesses, boils, and carbuncles. The plant is also used for dog bite, scrofula and several skin infections. The Chinese rub the oil on the body for skin ailments. The seeds are crushed and made into a pulp and rubbed into the palms for palsy, introduced into the urethra in stricture and rubbed on the soles of feet of parturient woman to hasten birth or expulsion of the placenta. The seeds are also used to treat colic, diarrhoea, dysentery, enteritis, acute constipation, for itching, ringworms, warts, dandruff, hair loss and haemorrhoids. It is also used as a laxative before X-ray examination of bowels. Midwives sometimes use castor oil to induce labour, as antifertility, antioxidant, antipsychotic, antiviral, anti-inflammatory, anti-convulsant, hepatoprotective, filaricidal, haemaglutination and insecticidal[20].

Allamanda cathartica L. (Apocynaceae):

Allamanda cathartica (Allamanda, Common Allamanda, Golden Trumpet**)**

The plant has been used as a purgative to induce vomiting at low dosage. Its leaves are cathartic and the bark is used as a hydragogue for ascites. In Surinam's traditional medicine, its roots are used against jaundice, for complications with malaria and enlarged spleen, as anthelmintic, antifungal, antineoplastic, anti-venom and wound healing[21].

DISCUSSION

Ayurved has advocated using toxic substances in minute quantity for treating various ailments like udara. In the latter period various texts of Ayurved had been using toxic substances by classifying them into visha and upavisha categories, amongst which upavishas are considered to be having less toxicity than that of vishas. For using these substances in the treatment they were treated with various media, the process being called as shodhana. This shodhana procedure was carried out in order to detoxify the toxic substance along with the incorporation of certain other properties to it. It may be considered that the ten gunas which are attributed to these visha dravyas may be getting reduced due to these procedures which allow the toxic substance to be used internally without any complications.

Every guna, attributed to a visha, has got some action on dosha, dhatu and mala. Due to Laghu guna visha does not remain constant in a particular place (anavasthitatva). Hence, does not allow the interaction between the visha and the administered bheshaja, which is necessary in order to treat the guna. Sukshma guna of a visha dravya helps to penetrate the sukshma srotas of the body,

resulting vitiation of rakta dhatu.

CONCLUSION

It may be interpreted that vishahara drugs may possess antihistaminic and immunomodulatory activities. The drugs from natural source are to be investigated with emphasis to their specific anti-venom activity and also with respect to anti-inflammatory, antihistaminic and immunomodulatory activities. The herbal alternatives for Anti-snake venom and other anti-venoms could take leads from ancient lexicons such as Dhanvantari nighantu for anti-venom new drug development.

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Source of support: Nil, Conflict of interest: None Declared