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Review Article

CHATHURVIMSHATHI UPAKRAMA AND ITS IMPORTANCE: A REVIEW

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ABSTRACT

Agada tantra is one of the ashtanga of Ayurveda (eight faucets). It is a branch in which treatment of various poisons are described with signs and symptoms and treatment. A general principle of treatment of poisoning is explained in Ayurvedic Samhitas like Charaka, Sushruta and Vagbhata. For the management of poisons acharya Charaka has explained *Chaturvimshathi Upakrama* (24 treatment procedure). These treatment modalities are complete in the management of poison. It includes supportive therapy, elimination therapy, pacifying measures, measures that restrict the entry of poisons, etc. This treatment modality is useful in the management of all types of poisons.

KEY WORDS: Agada, Chaturvimshati upakrama, Visha, Poison

INTRODUCTION

Agada Tantra is a branch of Ayurveda. Toxicology that deals with various type of poisons and its management¹. In treatment of *visha* acharya Charaka has explained the *Chaturvimshati upakramas* (24 treatment procedure). From this it is clear that, it was possible to treat *visha* with ayurveda medicine alone.

The *Chaturvimshati upakramas* are *Mantra* (Chanting hymns), *Arishta bandhana* (Tourniquet application), *Uthkarthana* (Incision), *Nishpeedana* (Squeezing), *Chushana* (sucking), *Agni* (Cauterization), *Parisheka* (Sprinkling), *Avagaha* (Immersionbath), *Rakthamoshana* (Bloodletting), *Vamana* (Emesis), *Virechana* (Purgation), *Upadhana* (Applying medicine over incised scalp), *Hridayavarana* (protection of hridaya), *Anjana* (Collyrium), *Nasya* (Nasal instillation), *Dhoopa* (Fumigation), *Leha* (linctus), *Aushadha* (medicine), *Prashamana* (pacifying measure), *Prathisarana* (rubbing), *Prathivisha* (antidote), *Sanjastapanam* (regaining consciousness), *Lepa* (ointments), *Mrthasanjivani* (revival)

MANTRA (Chanting of Hymns)

Mantra are nature of truth and penance delivered by Devarshi and Brahmarshi³. For the removal of *visha*, mantra chikitsa is said to be the best treatment⁴. So it is the first line of treatment in Chaturvimshathi Upakrama. According to Vagbhata, mantra is said as *vishapaharani*, Mantra has the capacity to destroy *visha* and it is said to be *Daiva sampat*⁵.

Method of chanting mantra

One who chant the Mantras should stay away from women, meat, wine; limited food should be taken, should be clean, sleep in a bed prepared by *Kusha* (a type of grass) and worship of Gods should be done by garlands, aroma sticks, sacrifices, etc.⁶

Mode of action of Mantra

Chanting mantra in a specific rhythm creates confidence in person and helps in reducing anxiety. It stimulates sympathetic nervous system and strengthens the peripheral blood vessels, which help in maintaining the normal blood flow to vital organs. Thus mantra has a role in reassuring the victim. The energy level in the surrounding varies while chanting mantras. A well chanted mantra is very effective better than that done by drugs⁷.

ARISHTA BANDHANA (Tourniquet application)

Arishta bandhana is the one of the emergency line of treatment for *Visha*. It prevents spreading of the poison. If the *Visha* has not spread from site of bite the *shareera dhaatu's* then *arista bandhana* should be done 4 *angula* (4inches) above the bite site⁸. Two types of tourniquet application are mentioned in classics namely, without mantra by *rajju* (rope), etc and with mantra.

Materials used for tourniquet application

Cloth, skin of animals which is soft can be used for tourniquet application. The bandhana should be based on the Desha. It should not be too tight or too loose. If it is too tight it will cause swelling and putrid smell from the site of bite. If it is too loose it will cause fast spreading of *visha*.⁹

Tourniquet application restricts lymphatic flow not blood. Once venom enters the body it reaches the vital parts either through lymphatic/venous drainage. The hydrostatic pressure in venomous capillaries and lymphatic channel is about 20mm/Hg, where in larger venous vessels it is about 100mm/Hg. But the arterial pressure average is 120 mm/Hg. So the effort can be made to slow down the lymphatic and venous drainage and not to obstruct the arterial supply as a result spreading of poison all over the body can be prevented¹⁰.

UTHKARTHANA (Incision)

It is the method of incision of the site of bite. According to Vagbhata, *Visha* will remain 100 *matra kaala* (blinking of the eye is considered as one *matra kala*) in the bite site. Then it spreads into circulation. One should go for *utkartana karma* during this time period¹¹. A simile is mentioned in Charaka samhita, that if the tree is cut from the root, it causes death of the tree. In the same way if *utkartana* is done at the site of bite, there will not be the spread of poison in the body¹². Incision should not be too deep as it will cause injury to vessels nerves, tendons, etc¹³.

NISHPEEDANA (Squeezing)

It is the method of expelling the poison by squeezing the area of bite. It is contra indicated in *Marma* (vital parts) and *Sandhi* (joints). If it is done in *marma* sthana it will cause death, in joints it will cause deformity of joints¹⁴.

The concept of pressure embolism is given in contemporary science for the management of poisoning. Researches have shown that very little snake venom reaches the blood stream if pressure is applied to bitten area. It is mainly for taking out stings from bite site¹⁵.

CHUSHANA (Sucking)

It is the method of sucking the poison from the site of bite. According to acharya Charaka, the mouth should be filled with *yava curna* (*Hordeum vulgare*), before sucking¹⁶. It removes blood mixed with *visha* from the bite site. Acharya Sushruta explained to suck the *visha* by filling the mouth with cloth¹⁷. Sangrahakaara adds- *chushana karma* of *visha* to be done by filling the mouth with mud, ash, cowdung. It is mainly done on the fleshy part (*mamsala region*). It is contraindicated if the physician is suffering from *mukha vrana* (mouth ulcer) as the poison will enter to the circulation and will also suffer from the same effect as snake bite¹⁸.

AGNI KARMA (Cauterization)

It is indicated in *Twak-Mamsagatha visha* (Poison in skin & muscles)¹⁹. Dalhana opines that in viper bite *agnikarma* is contraindicated, it causes pitta aggravation and leads quick spread of poison. Material used for *agnikarma* are metals and cloth²⁰.

In modern it is known as Cauterization. It destroys affected tissues and minimizes infection²¹.

PARISHEKA

It is the method of sprinkling medicated decoction over the site of bite. Decoction prepared by *Chandana* (*Santalum album*) and *Usheera* (*Vetivera zizanioides*) is used for *parisheka*. *Visha* vega is prevented by using cold decoction²². After *raktamokshana* (*bloodletting*) the remaining *rakta* will attain *leenata* because of the *ushna guna* of *visha*. For this cold *lepa* (*Cold pack*) and *parisheka* (*Sprinkling*) should be done²³.

In Viper bite, the commonly practiced *dhara* is *Panchavalkala kwatha dhara*. In Cobra bite *Grtha saindhava dhara* is used²⁴.

Condensation of blood helps to pacify the intensity of poison. Appropriate irrigation of the bite will decrease the rate of absorption of poison. Cold character of drug helps in reduction

of further infection in the wound; contraction of blood vessels, prevent further spread of poison²⁵.

AVAGAHA (Immersion bath)

Avagaha means immersion or dipping the affected part in the medicated decoction or oil. As per modern terminology it is known as immersion bath. They help in proper circulation and eliminates toxic matter from the body.

RAKTHAMOKSHANA (Bloodletting)

Once the *visha* enters the body *Rakthamokshana* is said to be the *parama chikitsa* (Prime treatment)²⁶. In all cases of snake bite, the physician should puncture the vein in the upper or lower limbs and in forehead region. By this *visha* will be eliminated from the body with blood and saves the life of the person. If visualization of the vein is good then *Raktamokshana* can be done with *Shrungra* and *Jalouka*. If blood does not come from the site of bite- *pragarshana* (rubbing) should be done with *Trikatu* (*Zingiber officianale*, *Piper nigrum*, *Piper longum*), *Grhadhuma*, *Rajani* (*Curcuma longa*). As the poison spreads the patient will suffer from intoxication, depression, so application of cold therapy will alleviate such complication²⁷.

VAMANA (Emesis)

It the method of inducing vomiting. In *visha* chikitsa, mainly *sadhya vamana* should be done. It is indicated in *Kaphaja* bites, associated with excessive salivation. According to Sangrahakara, *vamana* should be done, if snake bite is above the umbilical region²⁸.

VIRECHANA (Purgation)

It is the method of inducing purgation. It is indicated in burning sensation, pain and obstruction of urine in pitta prakrithi person²⁹. According to Ashtanga sangraha if a *pitta prakrithi* person is bitten by snake of *pitta* predominance, if the bite is below the umbilical region, and is localized in *pakvasaya*, then *Virechana* is to be done. Purgation is induced by giving *Neelini choorna* (*Indigofera tinctoria*) with milk, *Trivrit choorna* (*Operculina turpethum*) along with *Triphala kwatha*³⁰.

UPADHANA (Application of medicine on the incised scalp area)

Upadhana is a special procedure in which medicine is applied over the incised scalp. This treatment is to be done if the patient is not having *asadhya lakshana*. After making incision like cow's feet, bilwa pramana of *mamsa* made out of *Chagha* (*goat*), *Gavya* (*cow*), *Mahisha* (*buffalo*), *Kukkuta* (*cock*) should be applied on the incised area³¹. According to Vagbhata, if the snake bite is in lower part of the body incision is to be made on scalp. Similarly if it is in the upper parts then incision is to be made in the feet³¹.

HRIDAYAVARANA (Protection of heart)

Hridayavarana is the method of protection of *hridaya* by using certain medicines. *Teekshnata* of *visha* causes the *karshana* of *hridaya*. So for the protection of Heart *Hridayavarana* is to be done³².

Different combinations used for Hridayavarana³²:

House hold items	Plant materials	Animal materials	Other products
<i>Madhu</i> (Honey)	<i>Supakva ikshu rasa</i> (sugarcane juice)	<i>Majja</i> (Bone marrow)	<i>Gairika</i> (Red ochre)
<i>Sarpi</i> (Ghee)	<i>Sireesha</i> (<i>Albizia lebbek</i>)	<i>Gomaya rasa</i> (Cow dung)	<i>Bhasma</i> (Ash)
<i>Paya</i> (Milk)		<i>Kaaka niryasa</i> (Crow soup)	<i>Mruth</i> (Mud)
<i>Panchagavya</i>		<i>Raktha of chaga</i> (goat's blood)	
<i>Dadhi</i> (curd)			

Water and decoction help in dilution; ghee, curd, *panchagavya* having demulcent action gives a protective covering. Ash, water neutralize the poison. *Gairika* (Red ochre) retards absorption by precipitation³³

ANJANA (Collyrium)

It is indicated in *Shoonakshikuta* (Swelling in the orbital margin), *Nidrrarta* (Excessive sleep), *Vivarna avila lochana* (Discoloured and turbid eyes), *Vivarnam pasyathi* (perception of various colours)³⁴. If there is any obstruction in *netra* then *Anjana* should be done using *Devadaaru* (*Cedrus deodara*), *Shunthi* (*Zingiber officinale*), *Maricha*, (*Piper nigrum*) *Pippali* (*Piper longum*), *Haridra* (*Curcuma longa*), *Karaveera*, (*Nerium indicum*) *Karanja* (*Pongamia pinnatta*) *Nimba flowers* (*Azadirachta indica*) and *Tulasi* (*Ocimum santum*) are made into *pishti* using goat's urine³⁵. Commonly practiced yoga are *Bilvadi gulika* with *Tulasi pathra swarasa* in all types of poison³⁶.

NASYA (Nasal Therapy)

It is the instillation of medicine in the nose. If poison enters the head, *nasya* is said to be the main line of treatment. According to Charaka if there is obstruction in nose, eyes, ear, tongue, throat, *nasya* should be done. Different combinations are used for *Nasya karma like Bharngi mula* (*Clerodendrum serratum*), *Tulasi* (*Ocimum santum*)³⁷.

DHOOPANA (Fumigation)

It is the procedure, wherein medicated smoke is used for the purpose of fumigation and this helps to nullify the adverse effect of the poison.

Ex. *Nrikeshadhi dhoopana* for Keeta visha (insect poisoning)³⁸ Anti-toxic material that is emitted from the smoke enters the body and clears the channels of circulation and nullify the toxic effects of poison³⁹.

LEHA (Confectionary/ Linctus)

It is the preparation of medicine in linctus form. *Lehyas* are used, to prevent the drying of throat, palate by *visha*. *Sharkara* (Jaggery) and *Madhu* (Honey) should be given with *Swarna bhasma* and is used as *sarva visha prashamana leha*⁴⁰.

AUSHADA (Medicine)

Internal medicine for the treatment of *visha* are explained. Some examples for *aushadha yogas* are *mrthasanjivani agada*, *gandhahasthi agada*, *dhumagada*, *kshara agada*, *pancha sirisha agada*, etc.

Commonly practiced *aushadha yogas*:

In cobra bite 15 ml of *Maha kalyanaka grtha*, 10 ml honey, *Vilvadi gutika* can be given. 3-5 minute, later *Jeevaraksha gutika* along with milk is given. In viper bite decoction of *Patoladhi*

gana and *Vilvadi gutika* are given as primary medication. In case of haematuria, *Taruna bhaskara gutika* and tender coconut is useful. In insect bite, *Dasanga agada* is usually prescribed⁴¹.

PRASHAMANA (Pacifying measures)

After elimination therapy some *doshas* will remain in the body. To remove this *prashamana* is to be done.

PRATHISARANA (Rubbing)

It is a method by applying and rubbing with powders. It is indicated in *Raktamokshana* when blood fails to come out. Drugs used are *Trikatu* (*Zingiber officinale*, *Piper longum*, *Piper nigrum*) *Gruhadooma* (soot), *Haridra* (*Curcuma longa*), etc.⁴². *Prathisarana* increases the flow of blood or body fluids. The medicated powder absorbs excess moisture, reduces itching, irritation, cools the skin and also dries the oozing⁴³.

PRATHIVISHA (Antidotes)

Substances used to treat poison is named as *Prativisha*. It is indicated if the *visha vega* in between 5th and 7th *vega*. *Sthavara visha* is similar to *kaphaja guna*, so the direction of *visha* is upward. *Jangama visha* is similar to *pittaja guna*, so the direction of *visha* is downward. The *guna* of *sthavara* and *jangama visha* are opposite to each other. Hence it is *Prativisha* to each other and it nullifies the effect of *visha*. It is given after the administration of *Ghratapana*. After *Vamana-Virechanaadi karma* in cold season or spring. It is contraindicated in rainy season, pregnant ladies and children⁴⁴.

SAMJNASTHAPANAM (Regaining consciousness)

It is the method of regaining consciousness. In 6th *visha vega samjnasthapana chikitsa* is to be done. It is attained by *pana* of *gopitta* along with *haridra* (*Curcuma longa*), *manjishta*, (*Rubia cordifolia*), *maricha* (*Piper nigrum*), *pippali churna*. (*Piper longum*)⁴⁵.

LEPA (Ointments)

It is the method of applying medicated paste at the site of bite. If a *pitta prakrithi* person suffers from thirst, unconsciousness, then *sheethala lepa* should be done. After *Raktamokshana* for the removal of residual poison *lepa* should be applied at the site of bite⁴⁶. Commonly practiced *lepa* is *Sigru punarnavadi lepa* in allergy caused by viper bite. *Bilvadigulika* and *Dasanga lepa* is used in insect poisoning⁴⁷.

MRUTHASANJEEVANI

Just as *amrita* gives life even to the dead person, in the same way *mrthasanjeevani* can be used in all cases of *visha*. Charaka explains a formulation named as *Mrthasanjeevani agada* which is in the form of *gutika*. This cures all types of *visha*⁴⁸. This

agada is used for resuscitation, when the patient is apparently dead, but life energy remains hidden in the body⁴⁹.

DISCUSSION

The chaturvimshathi upakrama explained in classics have all the measures needed in the management of poisons. In chaturvimshathi upakrama, the pacifying measures are *Anjana, Lepa, Dhupana, Leha, Upadhana, Prashamana, Prathisarana*. The measure that restrict entry of poison into systemic circulation are *Arishta, Uthkarthana, Nishpidana, Chushana, Agni, Parisheka, Avagaha*. The Elimination therapy are *Rakthamokshana, Vamana, Virechana, Nasya*. The Supportive symptomatic treatment are *Hrdhayavarana, Sanjasthapana, Mrthasanjivani*. The counteracting medication are *Mantra, Aushadha, Prathivisha*. The *Upakrama* has to be selected according to condition of patient as per the yukti of the physician.

CONCLUSION

Chaturvimshati upakramas explained by Acharya Charaka are unique in the management of poisons. It have their own significance in dealing with the poison in different ways. It can be seen that most of them are based on same principle of modern medicine. *Chaturvimshathi Upakrama* is common for all types of *visha* i.e., *Sthaavara, Jangama, Gara, Dooshi visha* etc. In most of the cases *Upakramas* should be selected by the physician on the basis of the type of *visha, Prakruti, Saatmya, Rtu, Sthaana, Vega and Balaabala*. As these modalities are based on scientific approach, its study in detail with scientific parameters can be done to have a standard protocol in the management of poisons. Though it is in practice there remains wide scope for research in this area.

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