Review Article

CHATHURVIMSHATHI UPAKRAMA AND ITS IMPORTANCE: A REVIEW
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ABSTRACT

Agada tantra is one of the ashtanga of Ayurveda (eight facets). 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 Chathurvimshathi 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 Chaturvimshathi upakramas (24 treatment procedure). From this it is clear that, it was possible to treat visha with ayurveda medicine alone.

The Chaturvimshathi upakramas are Mantra (Chanting hymns), Arishtha bandhana (Tourniquet application), Utkatrikana (Incision), Nishpeedana (Squeezing), Chushhana (sucking), Agni (Cauterization), Parisheka (Sprinkling), Avagaha (Immersionbath), Rakhanoshana (Bloodletting), Vamana (Emesis), Virechana (Purgation), Upadhana (Applying medicine over incised scalp), Hrdayavarana (protection of hridaya), Anjana (Collyrium), Nasya (Nasal instillation), Dhoopa (Fumigation), Leha (linctus), Atshadha (medicine), Prashamana (pacifying measure), Prathisaranana (rubbing), Prathivisha (antidote), Sanjastapanam (regaining consciousness), Lepa (ointments), Mrthasanjivi (revival)

MANTRA (Chanting of Hymns)

Mantra are nature of truth and penance delivered by Devarshi and Brhamarshi3. For the removal of visha, mantra chikitsa is said to be the best treatment5. So it is the first line of treatment in Chathurvimshathi Upakrama. According to Vagbhata, mantra is said as vishapaharan, Mantra has the capacity to destroy visha and it is said to be Daiva sampat5.

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)

Arishtha 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 period12. 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, etc.11.

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 curma (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 (mansala 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 zizanoides) 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 sindhavaya dhara is used24. Condensation of blood helps to pacify the intensity of poison. Appropriate irritation 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 Rakthamokshana can be done with Shringa and Jalouka. If blood does not come from the site of bite- pragarshana (rubbing) should be done with Trikata (Zingiber officinale, Piper nigrum, Piper longum), Ghradhumana, 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 prakriti 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(lindigoferra tinctoria) – with milk, Tritir choorna(Operculina turpethum) along with Triphala kwatha30.

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 asadhyu lakshana. After making incision like cow’s feet, bilwa pramanas of mansa made out of Choqha (goat), Gavya (cow), Mahisha (buffalo). Kutkta (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 done52.
Different combinations used for Hridayavarana:  

<table>
<thead>
<tr>
<th>House hold Items</th>
<th>Plant materials</th>
<th>Animal materials</th>
<th>Other products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madhu (Honey)</td>
<td>Supakka iksha rasa (sugar cane juice)</td>
<td>Majja (Bone marrow)</td>
<td>Gairika (Red ochre)</td>
</tr>
<tr>
<td>Sarpi (Ghee)</td>
<td>Sireexha (Albic z liebeck)</td>
<td>Gomaya rasa (Cow dung)</td>
<td>Bhasma (Ash)</td>
</tr>
<tr>
<td>Pava (Milk)</td>
<td>Kaaka nirysa (Cow soup)</td>
<td>Kaaka nirysa (Cow soup)</td>
<td>Maruth (Mud)</td>
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<tr>
<td>Panchagavya</td>
<td>Raikhya of chaga (goat’s blood)</td>
<td>Panchagavya</td>
<td>Panchagavya</td>
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<tr>
<td>Dadhi (curd)</td>
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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 precipitation.

ANJANA (Collyrium)

It is indicated in Shoonakshikata (Swelling in the orbital margin), Nidrarta (Excessive sleep), Vivarna avila lochana (Discoloured and torn lids), Vivarnam pasyathi (perception of various colours). If there is any obstruction in netra then Anjana should be done using Devadaru (Cedrus deodara), Shunthi (Zingiber officinale), Michuka (Piper nigrum), Pippali (Piper longum), Haridra (Curcuma longa), Karaveera, (Nerium indicum) Karanja (Pongamia pinnata) Nibham flowers (Azadirachta indica) and Tulasi (Ocimum sanctum) are made into pishhti using goat’s urine. Commonly practiced yoga are Bilvadi guhika with Tulasi pathra swarasa in all types of poison.

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), Bilvadi gulika, Supakva iksha rasa (sugar cane juice), Haridra (Curcuma longa), Karaveera, (Nerium indicum) Karanja (Pongamia pinnata) Nibham flowers (Azadirachta indica) and Tulasi (Ocimum sanctum) are made into pishhti using goat’s urine. Commonly practiced yoga are Bilvadi guhika with Tulasi pathra swarasa in all types of poison.

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). Anti-toxic material that is emitted from the smoke enters the body and clears the channels of circulation and nullify the toxic effects of poison.

LEHA (Confectionary/ Linctus)

It is the preparation of medicine in linctus form. Lehayas 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.

AUSHADA (Medicine)

Internal medicine for the treatment of visha are explained. Some examples for aushadha yogas are mṛhasanjanivani agada, ganda – kshara agada, gandha – kshara agada, pancha sirisha agada, etc.

Commonly practiced aushada yogas:
In cobra bite 15 ml of Maha kalyanaka grthha, 10 ml honey, Vilvadi guhika can be given.3-5 minute, later Jeevaraksha guhika along with milk is given. In viper bite decoction of Patoladi gana and Vilvadi guhika are given as primary medication. In case of haematuria, Taruna bhaskara guhika and tender coconut is useful. In insect bite, Dasanga agada is usually prescribed.

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 Trikuta (Zingiber officinale, Piper nigrum, Piper longum, Gruhadooma (soot), Haridra (Curcuma longa), etc. Prathisarana increases the flow of blood or bodily fluids. The medicated powder absorbs excess moisture, reduces itching, irritation, cools the skin and also dries the oozing.

PRATHIVISHA (Antidotes)

Substances used to treat poison is named as Prativisha. It is indicated if the visha vegha in between 5th and 7th vegha. Shavara 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 shavara 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 Ghrityapana. After Vamana-Virechanada karma in cold season or spring. It is contraindicated in rainy season, pregnant ladies and children.

SAMJNASTHAPANAM (Regaining consciousness)

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

LEPA (Ointments)

It is the method of applying medicated paste at the site of bite. If a pitta prakriti 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 bite. Commonly practiced lepa is Sigru punarnavadi lepa in allergy caused by viper bite. Bilvadigulika and Dasaga lepa is used in insect poisoning.

MRUTHASANJEEVANI

Just as amrita gives life even to the dead person, in the same way mṛhasanjaneevani can be used in all cases of visha. Charaka explains a formulation named as Mruthasanjeevani agada which is in the form of guhika. This cures all types of visha. This
agada is used for resuscitation, when the patient is apparently dead, but life energy remains hidden in the body.

**DISCUSSION**

The chathurvimshathi upakrama explained in classics have all the measures needed in the management of poisons. In chathurvimshathi upakrama, the pacifying measures are Anjana, Lepa, Dhupana, Leha, Upadhalna, Prashamana, Prathisaranama. The measure that restrict entry of poison into systemic circulation are Arishtha, Utkarthana, Nishpidana, Chushhana, Agni, Parischeha, Avagaha. The Elimination therapy are Rakthamokshana, Vamana, Virechana, Nasya. The Supportive symptomatic treatment are Hrdhayuvavarana, Sanjasthapana, Mrthasanjivani. The counteracting medication are Mantra, Aushadha, Prathivisha. The Upakrama has to be selected according to condition of patient as per the yukt 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. Chathurvimshathi Upakrama is common for all types of visha i.e., Shihauvara, Jangama, Gara, Dossi visha etc. In most of the cases Upakramas should be selected by the physician on the basis of the type of visha, Prakrutti, Saatmya, Rtu, Shahaana, Vega and Balabala. 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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