

**CONCEPTUAL STUDY OF *CHATURVINSHATI UPAKRAM* WITH
RESPECT TO EXACT TIME PERIOD OF IMPLEMENTATION OF
UPKRAMA: 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 Chaturvinshati Upakrama (24 treatment procedure). These treatment modalities are complete in the management of poison. This treatment modality is useful in the management of all types of poisons. But its exact time of implementation for maximum procedure is not specifically mentioned in samhitas. This conceptual study tries to understand the comparison between modern principle of treatment of

poison with 24 modalities with implementation of proper time zone. Exact time of implementation of some of the procedures are not elaborated by Charaka in *Chaturvinshati upkrama*. Here after understanding basic principles of action of these *Upakrama*, its tentative implementation time and duration were tried to understand which is mentioned in table no. I. Further pre-clinical and clinical experiments are needed to established this *Upakrama* clinically in this era of modern medicine.

KYEWORDS: Chaturvinshati Upakrama, Prativisha, principles of general line of treatment.

INTRODUCTION

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. This treatment modality is useful in the management of all types of poisons. But its exact time of implementation for maximum procedure is not specifically mentioned in samhitas. This conceptual study tries to understand the comparison between modern principle of treatment of poison with 24 modalities with implementation of proper time zone.

In modern medicine, toxicology is the science which deals with poisons with reference to their sources, properties, mode of action, symptoms which they produce, lethal dose, and nature of fatal results, treatment, methods of their detection and estimation and autopsy finding.^[1] Great contributors of toxicology have quoted so many aspects of general treatment protocol of poisoning management.^[2] As we go through protocols they can be summarized as following:

1. Stabilization and Evaluation
2. Removal of poison
3. Use of Antidotes
4. General Care
5. Psychiatric Care of patient.

All the above protocol was involved by Charakacharya in his *Chaturvimshati Upkrama*. *Chaturvinshati Upakrama* explain by Charakacharya is listed below in chart. And efforts are made to try to understand the exact application of that upkrama according to time in modern era.

Table I: Chaturvimshati Upkrama with principle of action and tentative application of time and duration.

Sr. No.	Name of Upkrama	Principle of action	Starting time of procedure	Duration
1	<i>Mantra</i> (Chanting hymes)	Psychiatric care	Start: immediately after incidence or when patient reaches to doctor.	Continue throughout or repeat after specific periodic gap.
2	<i>Arishta bandhana</i> (Tourniquet application)	Removal of poison and stops its further spread	Immediate after bite.	Continue till other Medicinal care start. But it should be released in specific time gap for few seconds to prevent cellular asphyxia.
3	<i>Uthkarthana</i> (Incision)	Removal of poison and stops its further spread	Immediate after bite.	Continue till some quantity of blood flows from bite site.
4	<i>Nishpeedana</i> (Squeezing)	Removal of poison from bite site.	Immediate after bite.	Continue till some quantity of blood get removed from bite site.
5	<i>Chushana</i> (Sucking through the site)	helps to prevent further spread of poison.	Immediate after bite.	Continue till some quantity of blood get removed from bite site.
6	<i>Agni</i> (Thermal cauterization)	destroys some tissues in an attempt to mitigate damage, and minimize infection	Immediate after bite or after incision	For few seconds.
7	<i>Parisheka</i> (Sprinkling water)	irrigation of bite wound with water to clean local area and to reduce bacterial or viral load locally.	Immediate after bite.	Continue for 10-15 min.
8	<i>Avagaha</i> (Immersion bath)	They help in proper circulation and eliminates toxic matter from the body.	After vitals stabilisation.	Varies according to type and symptoms produced by poison.
9	<i>Rakthamoshana</i> (Bloodletting)	Removal of poison and stops its further spread	Immediate after bite.	Depend in measures used for <i>raktamokshan</i> like <i>jalouka</i> , horn, scrapping etc
10	<i>Vamana</i> (Emesis)	To remove unabsorbed poison in oral poisoning case.	Immediate after poisoning before 2-3 hours, before its absorption and further forward displacement.	Till colour of ingoing and outcoming fluid is same.
11	<i>Virechana</i> (Purgation)	To remove unabsorbed poison. When poison has escape stomach which has reached to intestine.	After 2-3 hours of poisoning but before 4-6 hours.	1-2 times may be sufficient. Depends upon the nature and dose of poison.
12	<i>Upadhana</i> (Applying)	To neutralizes action of poison immediately and to	Given immediately in unconscious patient.	Apply till patient get consciousness.

	medicine over incised scalp)	make patient conscious.		
13	<i>Hridayavarana</i> (Protection of Hridaya)	Prevent absorption. Helps in neutralisation. Act as demulcents.	In conscious patient after removal of unabsorbed poison or if removal of poison is not possible then to slow down absorption or to neutralise the poison.	Till further progression of symptoms/actions of poison stops.
14	<i>Anjana</i> (Medicated collyrium)	to protect the eye damage from poison.	After primary stabilisation of patient.	Only ones.
15	<i>Nasya</i> (Nasal instillation of medication)	In the case of poisoning to restores consciousness.	If patient starts to lose consciousness, then immediately it should be started.	In specific time gap till patient get consciousness
16	<i>Dhooma</i> (Fumigation)	antitoxic medicated smoke enters in the body & clear the all the channels of circulation from all kinds of obstruction.	After basic stabilisation of patient.	Should continue till patents respiratory channels get cleared.
17	<i>Leha</i> (Medicated linctus)	To prevent dryness of throat and mouth which is common in poisoning and make medicine palatable and easily digestible.	Depends on patient condition, may be given immediately or after vitals stabilisation or may give to stabilise the vitals, also while giving oral medication.	Depends on condition of patient.
18	<i>Aushadha</i> (medicine)	Oral medication.	Immediate after poisoning	Till patient normal condition get restored.
19	<i>Prashamana</i> (Pacifying measure)	remove small amount of poison remained after purification	After body purification therapy like <i>Vaman</i> , <i>Virechana</i> , <i>Raktamokshana</i> etc.	Till patient normal condition get restored.
20	<i>Pratisarana</i> (Rubbing/ Local applications)	applying and rubbing with medicated powders. May be act as wound healer and prevent further infection in case of bite or sting.	It is indicated in <i>Raktamokshana</i> when blood fails to come out, so continue till blood starts oozing.	Depends on symptom produced.
21	<i>Prativisha</i> (Antidote)	Acts oppositely to poison and helps to restore nature condition of body.	When the spread of poison becomes uncontrollable by mantra & other procedures. Then this is the last measure in the treatment of	Depends on symptom produced.

			poison & hence should be used in extreme cases if it is administered after the lapse of suitable stage, it causes different complication	
22	<i>Sangyahaarana</i> (Regaining consciousness)	Plays vital role in regain the conscious state of an unconscious person, for that venesection is done in the veins of forehead or extremities. In modern also various efforts has to be taken to bring consciousness like use of ventilators, artificial respiration & stimulant drugs	Immediate if patient is unconscious or patient is losing his consciousness in extreme conditions.	Till patients get conscious.
23	<i>Lepa</i> (Ointments/ Application of medicated pastes)	Pacifies the poison, prevent further spread of infection and may act as wound healer.	In case of bite after <i>raktamokshana</i> , <i>Achushana</i> , <i>Nishpidana</i> .	Depends on condition of wound and action of poison.
24	<i>Mritasanjivani</i> (Revival)	It is one of the ancient classical therapies through which the life of an individual can be regained. But now a day this therapy has vanished. This therapy could be considered as a broad spectrum or a universal antidote which can be used to nullify the toxic effect of almost all types of poisons	When after all measures of treatment patient condition is getting worsen.	Till patient get conscious.

1. *Mantra chikitsa*

Mantras are syllables or short sentence recited in a rhythmic & prescribed manner are full of divine power & energy. The right and systematic chanting of mantras have a collective effect on the mind which ultimately commands our body Mantra is the nature of Truth and Austerity told by Devarshi and Brahmarshi.^[3] Mantra Chikitsa is said to be best and 1st line of treatment in the treatment of poison.^[4]

2. *Arishta Bandhan*

Arishta means unfavourable or which gives the indication of death.^[5] When the intensity of poison increases it signifies the *Arishta*. When poison get injected in body it get mixed with

blood and spread all over the body producing toxic effects. The spread of venom on limbs is arrested by application of tourniquet. 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 site^[6] with the help of cloth or bark of tree or any other soft material.^[7] It is done with or without mantra chanting to stop spreading of venom.

3. *Utkartana*

In this method incision is taken at the site of bite avoiding marmas (vital points) & joints to remove unabsorbed poison from the site of bite. As tree does not grow after cutting its root, poison also does not spread after incision of site of bite.^[8] According to Vagbhata, *Visha* will remain 100 matra kaala (blinking of the eye is considered as one mantra kala) in the bite site. Then it spreads into circulation. One should use *utkartana karma* during this time period.^[9]

4. *Nishpeedana*

Removing the poison from the body by squeezing the poisonous bite area from all the side is *Nishpeedana Karma*. This procedure can be done where *Utkartana* is not possible. 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 joint.^[10]

5. *Chushana karma*

Chushana means sucking of poison from the bite area. It is mainly done on the fleshy part because that area can be easily sucked. Acharyas has mentioned precautions before sucking blood. It should take by filling the mouth with cloth^[11], *Yava Churna* (*Hordeum vulgare*), mud, ash, cow dung, or with anti-poisonous drugs. It is contraindicated if the physician is suffering from *Mukha Vrana* (mouth ulcer) as the poison will enter to the circulation through *Vrana* and shows similar poisonous effect.^[12]

6. *Agni karma*

Cauterization usually followed after removing the poisonous area by incision. This procedure useful in poison resides in skin and muscles.^[13] This procedure is highly contra indicated in viper bites (*Mandali Sarpa*) as *Pitta Dosha* will be aggravated. *Dahana Karma* further aggravates *Pitta Dosha* and aid for the quick spread of poison and worsening the condition.^[14]

7. *Parisheka*

Sprinkling medicated decoction over the site of bite or to the whole body. Decoction prepared by *sheeta dravyas* are generally used for *parisheka* in poisonous cases.^[15] Cold decoction counteracts the *Ushna* and *Tikshna* qualities and will have *Stambhana* action on the body and prevents the spreading of poison to some extent.

8. *Avagaha*

Avagaha means immersion or dipping the affected part in the medicated decoction or oil. As per modern terminology it is known as immersion bath.

9. *Raktamokshana*

When poison get injected in body it get mixed with blood and spread all over the body producing toxic effects. Bloodletting therapy becomes main line of treatment when poison entered into the circulation. Blood is the major media which blows up the poison just like air blows up the fire, so bloodletting to be done as soon as possible to eliminate the poison quickly.^[16] Bloodletting to be done by puncturing vein in the upper, lower limbs and in forehead region, by this poison will be eliminated from the body along with blood and saves the life of the person.^[17] It should be performed by scraping, application of horns, leech or venesection.

10. *Vamana karma*

During first vega (phase) ingested poison should be eliminated by emesis which means if the poison is in the stomach, emesis is indicated. In first and second vega (phase) of *Sthavara* (inanimate) poison, emesis is indicated.^[18] It is also indicated in vishvegas of *stavar visha*, *dushi visha*, *gara visha*. In cold season, in presence of secretion of cold saliva, when predominant increase in *kapha* and when patient is of *shleshma* constitution, induction of emesis is to be done by administration of emetics.^[19]

11. *Virechana karma*

In second vega (phase) of *Sthavara Visha* (Inanimate poison) purgation is done.^[20] Purgatives are indicated when patient suffers from burning sensation and pain in *Koshtha* (abdomen), *Aadhman* (distention of abdomen), retention of urine-stool-flatulus, dysuria and deranged *pitta*.^[21]

12. Upadhana

In this special procedure scalp is incised superficially and anti-poisonous medications is applied over it to remove the poison from the body. This procedure is very useful if the patient coming with unconscious state or in the last stage of poisoning. During this stage incision should be made on scalp of patient resembling crow's leg and there paste of meat of goat, cow, buffalo or cock with blood to be applied in one Bilva Pramana.

13. Hridayavarana

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 done^[22] Poison deranges *kapha*, *pitta*, *vata* including their *ashayas* (reservoirs) and then occupy heart. From heart it spreads all over body causing death of patient. Hence heart is primarily protected by consuming *Madhu* (Honey), *Ghee*, *Majja*, *Milk*, *Garik*, *Gomaya rasa*, *Ikshu rasa*, *Kakand* (*Diospyros malabarica*) juice, Blood of goat & other animal, ash mixed with water & soil mixed with water.^[23]

14. Anjana

It is indicated in various conditions like *Shoonakshikuta*, *Nidrarta*, *Vivarna avila lochana* etc.^[24] If there is any obstruction in netra then Anjana should be done using Devadaaru (*Cedrus deodara*), Shunthi (*Zingiber officianale*), Maricha, (*Piper nigrum*) Pippali (*Piper longum*), Haridra (*Curcuma longa*), Karaveera, (*Nerium indicum*) Karanja (*Pongamia pinnata*) Nimba flowers (*Azadirachta indica*) and Tulasi (*Ocimum santum*) are made into pishti using goat's urine.^[25]

15. Nasya

Due to poisoning if obstruction occurs at nose, eye, ear, tongue & throat then nasal medication is given in which fine powder of *Beejpur*, *Jyotishmati* etc is used.^[26] When effect of poison is seen in head then nasal medication is given with juice of *Bandhujiva*, *Bharangi*, and *blacktulsi* or powder of *pippali*, *hingu*, *vrishikali*, *Manashila*, *Shirishbeej*, *Apamarga* *lavan*.^[27]

16. Dhuma

Medicated fumigation to alleviate all types of poison & swelling due to poisoning. Medicated fumigation of Laksha, Khas, Tejpatra, Guggul, Bhallataka, Arjunpushpa, Sarjarasa & Shweta aparajita in same quantity helps in destruction of snake, rat, insects & worms in cloth.^[28]

17. Leha

Preparation of medicine in the palatable form or semisolid medications prepared from various drugs are used in poisoning are termed as leha. In maximum cases of poisoning dryness of mouth and throat is common and sometimes there is difficulty in deglutition. In such condition immediate medication should be administered to avoid adverse effect of poison. But it should be in palatable easily digested form. So lehya (linctus) are preferred as Anupana and for this purpose Honey and Ghee are used *separately or in mixed form with medicine as Anupana*.

18. Oushadha

This is a rational therapy, depending on the nature of poison & patient condition medicine of different forms & combinations are used. All the medicine which is used internally in the treatment and complications of poisoning can be included under this modulate such as AjitAgad, Ksharaagad, Mahagandhahas etc.

19. Prashamana

After elimination therapy some doshas will remain in the body. To remove this prashamana is to be done. Complications like Mada, Murcha, Vishada, Hriddrava are relieved by cold procedure like blowing of air with the help of fan until poisonous person doesn't show straightening of body hairs.

20. Pratisarana

Pratisarana (Rubbing of medicated powder): If proper blood is not coming through bloodletting, rubbing of fine powders of *Sunthi, Maricha, Pippli, Grahadhuma, Haridra, Panchlavana, Brihatkantkari* is done.

21. Prativisha

This treatment method includes internal administration of poisonous drugs in case of poisonous bite. Plant poison has similar qualities of Kapha, moves in upward direction and animal poison has similar qualities of Pitta, moves in downward direction. Due to the opposite qualities, plant and animal poisons will counteract each other and nullifies the effect of poison.^[29] In the seventh vega of visha if inanimate poisoning is occurred, person should be bitten by venomous animals and if bite of venomous animal is occurred he should give inanimate poison as a part of treatment. When effect of poison does not subside by mantra & oushadha chikitsa then after fifth vega & before 7th vega Prativisha should be administered.

21. Sangyasmsthapana Vidhi

Patient is coming with unconscious state due to poisoning and then regaining the conscious becomes the main line of treatment. This treatment protocol mainly indicated after 6th stage of poisoning because person loses his conscious mainly in this stage. In sixth *vega* of poison *Sadnyasthapana* medicine that is *Gopitta*, *Haridara*, *Manjishtha*, *Maricha*, *Pimpali* in same quantity given with water. We can also use *Teekshna dravya nasya*, *Upadhana karma* & *Siravedha* as part of resuscitation treatment.

This is very important procedure which plays a vital role in regain the conscious state of an unconscious person for that venesection is done in the veins of forehead or extremities. In modern also various efforts has to be taken to bring consciousness like use of ventilators, artificial respiration & stimulant drugs.

22. Lepa

It is an external application of the medicated paste at the site of bite or to whole body. To stop the spreading of poison especially in Pitta vitiated condition, cold quality medicine to be applied over body. By cold medicated paste we can also prevent thirst, burning, altered senses, unconscious produced by poison. It can also applied over the bite area with anti-poisonous drugs to remove the poison from bite area.

23. Mrutasanjivani chikitsa

Just as amrita gives life even to the dead person, Mrutasanjivani can be used in all cases of poisoning.

Table II: Comparative classification of *Chaturvinshati Upakrama* on the basis of modern principle.

Sr. No.	Modern Principle	<i>ChaturvinshatiUpakrama</i>
1	Resuscitation- A, B, C, D of resuscitation	A and B- <i>Dhuma and Nasya</i>
		C- <i>Hrudayavaran</i>
		D- <i>Sangyasthapana, Nasya, Upadana, Siravedh, Mrutasanjivan</i>
		Injected- <i>Arishtabandhana, Utkartan, Nishpeedan, Chushana, Raktamokshana</i>
2	Removal of unabsorbed poison	Inhaled- <i>Dhuma</i>
		Contact- <i>Parisheka</i>
		Ingested- <i>Vamana</i>
		Prativish, <i>Aoushadha, Agada</i>
3	Use of Antidotes	<i>Prativish, Aoushadha, Agada</i>
4	Elimination of Absorbed poison	<i>Virechana.</i>
5	Symptomatic treatment-	<i>Anjana, Nasya, Dhuma, Leha, Oushadha, Prashamana</i>

DISCUSSION

The *Chaturvinshati Upakrama* explained in classics have all the measures needed in the management of poisons. When we compare both Ayurveda and Modern Medicine with respect to basic principles of treatment of poisoning, we find that all these principles which are suggested by modern medicine are already described in Ayurvedic Samhitas before thousands of year. It does not require more time & most important is, these are quick action. As these modalities are based on scientific approach, it's the time need to apply & see the realism of this treatment. And for that exact time of implementation should be known to everyone. Exact time of implementation of some of the procedures are not elaborated by Charaka in *Chaturvinshati upkrama*. Here after understanding basic principles of action of these *upakramas*, its tentative implementation time and duration were tried to understand which is mentioned in table no. I. Further pre-clinical and clinical experiments are needed to established this *Upakrama* clinically in this era of modern medicine.

CONCLUSION

We can conclude that the principles of treatment of poisoning which is suggested by both Ayurveda and Modern medicine are nearly same only the difference which we can see is the change in use of drugs, routes of their administration and latest science techniques. And further clinical trials & animal experimentation in this regard are necessary to prove these time tested basic principles of Ayurveda and also to empower the Ayurveda as immortal Science.

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