

A REVIEW ON MAHAAGADA AND ITS INDICATIONS - A LITERARY REVIEW

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ABSTRACT

Agada Tantra is a branch of Ayurveda which deals with different types of poisoning and their treatment. For the management of different kinds of poisons many formulations are mentioned in the treatise of Ayurveda. One such *Agada* that is mentioned in the context of snake bite management is *Mahaagada* quoted in *Ashtang Sangrah Uttar Sthana (42/61)*. It contains 14 ingredients including 9 herbs, 5 *Lavanas*, and goat's urine for trituration. A detailed scientific review is required to assess this formulation's effectiveness and comprehend its method of action. The preparation procedure is likewise simple, and the composition is made up of substances that are readily available. The article reports on pharmacodynamics of polyherbal formulation used in the treatment of snake bite, scorpion bite, rodent and insect bite.

KEYWORDS: *Mahaagada*, *Agada tantra*, *Ayurveda*, Poison, Snake bite.**INTRODUCTION**

Ayurveda has mentioned various medicine formulations both for internal and external uses. Similarly, there are formulations which are indicated for acute or chronic cases, poisonous or non-poisonous cases and similarly for single or multiple purposes.^[1] In *Ashtang Sangrah Uttarsthana (42/61)* *Mahaagada* is described in the context of treatment of snake poisoning. It can also be

used in the conditions like spider, rat, scorpion poisoning and also in gastroenteritis, indigestion, fever etc. It is a formulation that has 14 ingredients, it has to be triturated with goat's urine till it turns into a fine paste dried and preserved for further use.^[2] Thus an effort has been made to review the said formulation to encourage its use in various poisoning conditions.

Table 1: Ingredients of Mahaagada.^[3]

Ingredients	Scientific name	Family	Part used
Trivrita	<i>Operculina turpethum</i> Linn	Convolvulaceae	Root
Vishalya (purified form)	<i>Gloriosa superba</i> Linn.	Liliaceae	Root
Madhuka	<i>Glycyrrhiza glabra</i> Linn.	Leguminosae	Stem
Haridra	<i>Curcuma longa</i> Linn.	Zingiberaceae	Rhizome
Daruharidra	<i>Berberis lycium</i> DC	Berberidaceae	Root, Stem
Manjistha	<i>Rubia cordifolia</i> Linn.	Rubiaceae	Root
Shunthi	<i>Zingiber officinale</i> Rosc.	Zingiberaceae	Rhizome
Pippali	<i>Piper longum</i> Linn	Piperaceae	Fruit
Maricha	<i>Piper nigrum</i> Linn.	Piperaceae	Fruit
Goat's urine (<i>Bastamootra</i>)	<i>Capra aegagrus</i>	Bovidae	Urine

Panchalavana (Five salts).^[4]

Name	Chemical constituents
<i>Sauvarchal Lavana</i> (Sochal salt)	-Sodium Chloride (NaCl)- 97.8% -Total sulphide (Na ₂ S)- 0.981% -Iron (Fe)- 0.03% - Insoluble matters- 0.07%

<i>Saindhava Lavana</i> (Chloride of Sodium)	-Sodium chloride (NaCl)- 97.6% -Sodium Bicarbonate (NaHCO ₃)-0.07% - Insoluble matters- 0.031%
<i>Vida Lavana</i> (Ammonium salt)	-Sodium Chloride (NaCl)- 93.7% -Total Sulphide (Na ₂ S)- 0.121% -Iron (Fe)- 0.0089%
<i>Audbhida Lavana</i> (Reha salt)	-Sodium Chloride (NaCl)- 94.10% -Total Sulphide (Na ₂ S)- 0.042% - Sodium Bicarbonate (NaHCO ₃)- 0.049%
<i>Samudra Lavana</i> (Sea salt)	-Sodium Chloride (NaCl)- 91.3% -Total Sulphide (Na ₂ S)- 0.121% -Iron (Fe)- 0.0089% -Calcium Sulphate, Magnesium Sulphate, Magnesium Chloride etc – in little quantities.

MATERIALS AND METHODS

The study being a literary review, the sources of data will be collected from all Ayurveda compendia and also from the contemporary text books, websites and relevant journals.

Method of preparation^[5]

All the ingredients are taken in equal quantity. One of the ingredient (*Vishlaya*) is taken in purified form. They are powdered separately, the fine powders of the ingredients

are mixed well to form a homogenous mixture and then made into a paste form by triturating with *Ajamutra*.

Administration of *Mahaagada*^[6]

It can be used as oral route, collyrium and nasal medication.

Indications^[7]

It is indicated in poisoning of snake, spider, rat, scorpion and gastro enteritis, indigestion, artificial poison, fever, etc.

Properties of ingredients of *Mahaagada*

Drug	Rasa	Guna	Veerya	Karma
<i>Trivrita</i> ^[8]	<i>Tikta</i> (Bitter), <i>Katu</i> (pungent)	<i>Laghu</i> (light), <i>Ruksha</i> (Dry), <i>Teekshna</i> (sharp)	<i>Ushna</i> (Hot)	<i>Shothahara</i> (Anti oedematous), <i>Sukh virechaka</i> (light purgative), <i>Javaraghna</i> (Anti pyretic), <i>kapha-pitta shamaka</i> . Main chemical constituents -Turpethin, Glucoside, Jalapine
<i>Vishalya</i> ^[9]	<i>Tikta</i> (Bitter), <i>Katu</i> (pungent)	<i>Laghu</i> (light), <i>Teekshna</i> (Sharp)	<i>Ushna</i> (Hot)	<i>Deepan</i> (Gastrostimulant), <i>Garbhashya sankochana</i> (uterine contractions), <i>Vishamjavarghna</i> (Antipyretic), <i>Krimighna</i> (Anthelmintic), <i>Raktashodhaka</i> , <i>Vata-kaphashamana</i> . Main chemical constituents - Colchicines, Gloriosine
<i>Madhuka</i> ^[10]	<i>Madhura</i>	<i>Guru</i> (Heavy), <i>Snigdha</i> (Unctuous)	<i>Sheeta</i> (Cold)	<i>Anulomana</i> , <i>Snehana</i> (Unctuous), <i>Stambhana</i> , <i>Raktapittashamaka</i> (prevent bleeding due to vitiation of <i>Rakta</i> and <i>Pitta</i>), <i>Mutrala</i> (Uriliser), <i>Dahaprashamana</i> (relieving burning sensation), <i>Vednasthapana</i> (Analgesic), <i>Vata-pittashamana</i> . Main chemical constituents - Glycyrrhizin, Isoliquiritin, Liquiritin
<i>Haridra</i> ^[11]	<i>Katu</i> (pungent), <i>Tikta</i> (bitter)	<i>Laghu</i> (light), <i>Ruksha</i> (dry)	<i>Ushna</i> (Hot)	<i>Kushthaghna</i> (anti-leprotic), <i>Kandughna</i> (Anti-pruritic), <i>Vishaghna</i> (Anti-poisonous), <i>Lekhaniya</i> (aids in reducing corpulency), <i>Krimighna</i> (Anti-helmentic), <i>Kaphavatarakta doshahara</i> (balance <i>Kapha</i> and <i>Vata</i> humor). Main chemical constituents - Curcumin, Curcuma oils (contains sesquiterpenoids and monoterpenoids)

<i>Daruharidra</i> ^[12]	<i>Tikta</i> (Bitter), <i>Kashaya</i> (Astringent)	<i>Laghu</i> (Light), <i>Rooksha</i> (Dry)	<i>Ushna</i> (Hot)	<i>Kandughna</i> (Anti-pruritic), <i>Vishahara</i> (Anti-poisonous), <i>Shophahara</i> (Anti-inflammatory), <i>Vedanasthapana</i> (Analgesic), <i>Yakrituttejaka</i> <i>Kaphapittahara</i> (Balance <i>Kapha-Pitta</i> humor). Main chemical constituents- Berberine, Oxyberberine
<i>Manjistha</i> ^[13]	<i>Tikta</i> (Bitter), <i>Kashaya</i> (Astringent), <i>Madhura</i> (Sweet)	<i>Guru</i> (Heavy), <i>Rooksha</i> (Dry)	<i>Ushna</i> (Hot)	<i>Shothahara</i> (Anti-oedematous), <i>Vranaropana</i> (Wound healing), <i>Kushthaghna</i> (Anti-leprotic), <i>Deepana</i> (Gastro-stimulant), <i>Pachana</i> (Digestive), <i>Stambhana</i> (Antihemorrhagic), <i>Krimighna</i> (Antihelmentic), <i>Raktashodhana</i> (Blood purifier), <i>Varnya</i> (Complexion promoter), <i>Rasayana</i> (Rejuvenant), <i>Kapha-pittashamana</i> (Balance <i>kapha-pitta</i> humor) Main Chemical constituents- Purpurin, Manjistin, Combined and free anthraquinones
<i>Shunti</i> ^[14]	<i>Katu</i> (Pungent)	<i>Laghu</i> (Light), <i>Snigdha</i> (Unctuous)	<i>Ushna</i> (Hot)	<i>Panduhara</i> (Prevent anaemia), <i>Shoolaprashamana</i> (Analgesic), <i>Atisarahara</i> (Prevent Diarrhoea), <i>Shophahara</i> (Antiinflammatory), <i>Jwarahara</i> (Anti-pyretic), <i>Vatakaphahara</i> (Balance <i>Vata</i> and <i>Kapha</i> humor) Main chemical constituents – Gingerin, Phenolic and terpene compounds contain Gingerols, Shogaols and Paradols.
<i>Pippali</i> ^[15]	<i>Katu</i> (Pungent)	<i>Laghu</i> (Light), <i>Snigdham</i> (Unctuous), <i>Teekshna</i> (Sharp)	<i>Anushnasheeta</i>	<i>Pleehayakrit roghara</i> (Prevent liver and spleen disorder), <i>Jwaraghna</i> (Anti-pyretic), <i>Jantughna</i> , <i>Vatakaphahara</i> (Balance <i>Vata</i> and <i>Kapha</i> humor) Main chemical constituents- Piperine, Sesamin
<i>Maricha</i> ^[16]	<i>Katu</i> (Pungent)	<i>Laghu</i> (Light), <i>Teekshna</i> (Sharp)	<i>Ushna</i> (Hot)	<i>Jantughna</i> , <i>Krimighna</i> , (Antihelminthic), <i>Vishaghna</i> , (Anti-poisonous), <i>Shoolaprashamana</i> (Analgesic), <i>Bhootghna</i> , <i>Janthusamsthananashana</i> Main chemical constituents- Piperine, Piperidine, Chavicine
<i>Panchalavana</i> (Five Salts) ^[17]				
<i>Sauvarchala Lavana</i>		<i>Laghu</i> (Light), <i>Vishada</i> (Clearness), <i>Snigdha</i> (Unctuous)	<i>Ushna</i> (Hot)	<i>Deepana</i> (Gastro-stimulant), <i>Pachana</i> (Digestive), <i>Gulamhara</i> (Prevent abdominal lump), <i>Shoolhara</i> (Analgesic), <i>Krimighna</i> (Antihelminthic), <i>Vatanulomana</i> (Prevent gastritis), <i>Vatashamana</i> (Balance <i>Vata</i> humor)
<i>Saindhav Lavana</i>		<i>Laghu</i> (Light), <i>Snigdha</i> (Unctuous), <i>Teekshna</i> (Sharp)	<i>Sheeta</i> (Cold)	<i>Agnideepana</i> (Gastrostimulant), <i>Pachana</i> (Digestive), <i>Hridya</i> (Prevent heart), <i>Shothhara</i> (Antioedematous), <i>Vibhandhaghna</i> (Prevent constipation), <i>Vranaropana</i> (Wound healing), <i>Tridoshashamaka</i> (Balance <i>Vata</i> , <i>Pitta</i> ,

				Kapha humor)
Vida Lavana		Laghu (Light), Ushna (Hot), Teekshna (Sharp)	Ushna (Hot)	Ajeernahara (Digestive), Shoolahara (Analgesic), Vibhandhara (Prevents constipation), Hridaya, Vatanulomana (Prevent gastritis)
Audbhida Lavana	Tikta (Bitter), Katu (Pungent), Kshara	Teekshna (Sharp)		Utkledi
Samudra Lavana	Kshara	Snigdha (Unctous)	Samasheetoshna	Agnideepaka (Gastro-stimulant), Vatashamaka (Balance Vata humor)
Goat's urine ^[18]				Vishaghna, Krimighna, Shoolghna, Shophhara, Udarapleehahara, Kushtaghna, Kamalahara

DISCUSSION

Mahaagada is mentioned to treat the patients of snake bite, though it can be used in other poisoning conditions and also in cases of indigestion, fever etc. As we are discussing below the symptoms of different types of poisoning. The common symptoms among all are *shotha* (swelling), *shool* (pain), *Toda* (pricky and knotty pain), *Daha* (burning sensation), *Kandu* (Itching), *Jwara* (fever) are seen. Due to *shothahara* and *kaphahara* properties of the ingredients like (*Shunthi*, *Haridra*, *Daruharidra*, *Trivrita* and *Manjistha*) acts on swelling. Because of *vatahara* and *shoolaghna* properties of the ingredients like (*Trikatu*, *Madhuka*, *Sauvarchal lavana* and *Vida lavana*) acts on pain. Due to *kandughna* and

kaphahara properties of the ingredients like (*Haridra* and *Daruharidra*) acts on itching. Owing to *pittahara*, *dahaprashamana* and *jwaraghna* properties of the ingredients like (*Trivrita*, *Vishalya*, *Madhuka*, *Haridra*, *Daruharidra*, *Manjistha*, *Shunthi*, *Pippali*) helps to reduce burning sensation and fever. Also, some of the ingredients have *vishahara*, *raktashodhaka*, *jantughna* and *vranaropaka* actions like (*Vishalya*, *Madhuka*, *Daruharidra*, *Manjistha*, *Pippali*, *Maricha*, *Saindhav lavana* and *Bastmootra*) which helps to combat poisoning condition and its complications. This formulation helps in relieving the symptoms of poisoning due to its numerous and varied properties and actions.

Snake poisoning

Table Showing symptoms of snake poisoning and the action of *Mahaagada* and the responsible ingredients.

Symptoms	Karma	Mahaagada
Pain	Shoolaghana	Trikatu, Madhuka, Sauvarchal lavana, Vida lavana
Haemorrhage	Stambhana	Madhuka, Manjistha
Inflammation and oedema	Shothaghna	Shunthi, Haridra, Daruharidra, Trivrita, Manjistha, Saindhav lavana, Bastamootra
Breathing and swallowing	Shwasa, Kasa, hikka hara	Trikatu
Pain abdomen	Deepana, Pacahana, Shoolaprashaman	Trikatu, Vishalya, Manjistha, Sauvarchal lavana, Vida lavana, Samudra lavana, Bastamootra
Ptosis and blurring of vision	Vatahara, Nadibalya	Daruharidra, Sauvarchal lavana
Necrosis	Vranahara, Ropaka	Haridra, Daruharidra, Manjistha, Saindhav lavana
Paralysis	Vatahara, Nadibalya	Daruharidra
Nausea	Deepana, Pachana and Chardighna	Trikatu

Loota Visha

Table Showing symptoms of *loota* poisoning and the action of *Mahaagada* and the responsible ingredients.

Symptoms	Karma	Mahaagada
Dadru, Mandala, Vivarnatha	Doshahara	Haridra, Daruharidra
Kandu	Kandughna	Haridra, Daruharidra
Visarpatha	Visarpaghna	Shunthi, Haridra
Shotha	Shothaghna	Shunthi, Haridra, Madhuka, Daruharidra, Trivrita, Bastamootra
Trishna	Dahaprashamana	Pippali, Madhuka
Bahuvedana	Shoolaghna	Trikatu, Madhuka, Sauvarchal lavana

<i>Jwara</i>	<i>Jwaraghna</i>	<i>Shunthi, Pippali, Trivrita, Vishalya</i>
<i>Aashupaka and Kotha</i>	<i>Vrana shodhaka and vrana ropaka</i>	<i>Haridra, Daruharidra, Manjistha, Saindhav lavana</i>

Mooshika Visha

Table Showing symptoms of Mooshika poisoning and the action of Mahaagada and the responsible ingredients.

Symptoms	Karma	Mahaagada
<i>Granthi and Karnika</i>	<i>Granthi, Kapha nad Medohara</i>	<i>Bastamootra</i>
<i>Shopha</i>	<i>Shothaghna</i>	<i>Shunthi, Haridra, Madhuka, Daruharidra, Trivrita, Bastamootra</i>
<i>Mandala</i>	<i>Tridosahara</i>	<i>Haridra, Daruharidra</i>
<i>Pidaka & Visarpa</i>	<i>Visarpaghna</i>	<i>Shunthi, Haridra</i>
<i>Kitibha</i>	<i>Raktaprasadana</i>	<i>Trikatu, Haridra, Daruharidra</i>
<i>Vedana</i>	<i>Shoolaghna</i>	<i>Trikatu, Madhuka, Sauvarchal lavana, Vida lavana</i>

Vrischika Visha

Table Showing symptoms of vrischika poisoning and the action of Mahaagada and the responsible ingredients.

Symptoms	Karma	Mahaagada
Local pain & Pain all over the body	<i>Shoolaghana</i>	<i>Trikatu, Madhuka</i>
Inflammation & Oedema	<i>Shothaghna</i>	<i>Shunthi, Haridra, Madhuka, Daruharidra, Trivrita, Bastamootra</i>
Oedema of tongue	<i>Shothaghna</i>	<i>Shunthi, Haridra, Madhuka, Daruharidra, Trivrita, Bastamootra</i>
Fever	<i>Jawaraghan</i>	<i>Shunthi, Pippali, Trivrita, Vishalya</i>
Haemorrhage	<i>Stambhana</i>	<i>Madhuka, Manjistha</i>
<i>Indriya vikruti</i>	<i>Indriya prasadana</i>	<i>Daruharidra</i>
Excessive sweating	<i>Kapha, Medohara</i>	<i>Bastamootra</i>
<i>Moorccha</i>	<i>Sanjnaprabhodana, Hrudyā, Indriyaprasadana</i>	<i>Trikatu, Bastamootra</i>
<i>Trishna</i>	<i>Trishnahara</i>	<i>Pippali, Madhuka</i>
Necrosis	<i>Vranahara, Ropaka</i>	<i>Haridra, Daruharidra, Manjistha, Saindhav lavana</i>

Ajeerna, Visuchika and Jwara

Table Showing actions of Mahaagada in case of Ajeerna (indigestion) and Visuchika (food poisoning with pain) and Jwara (fever) and the action of Mahaagada and its responsible ingredients.

Karma	Mahaagada
<i>Deepana</i>	<i>Trikatu, Mootra, Vishalya, Sauvarchal lavana, Vida lavana</i>
<i>Pachana</i>	<i>Trikatu, Mootra</i>
<i>Grahi</i>	<i>Trikatu</i>
<i>Anulomana</i>	<i>Trivrita</i>
<i>Krimighna</i>	<i>Pippali, Maricha, Haridra, Mootra</i>
<i>Vishaghna/ Gara nashana</i>	<i>Haridra, Daruharidra, Bastmootra</i>
<i>Jawaraghna</i>	<i>Shunthi, Pippali, Trivrita, Vishalya</i>
<i>Jantughna</i>	<i>Maricha, Pippali</i>

CONCLUSION

Mahaagada is a formulation comprising of nine herbal ingredients, and five *lavanas* that have to be triturated with goat's urine. The ingredients of the formulation are available and method of preparation is also simple. Majority of the drugs are *tikta* (bitter), *katu* (pungent) *rasa pradhan* which act as *Kapha-vatahara* (pacifies *kapha* & *vata*). Most drugs are *Ushna veerya* (hot potency), majority are *katu vipaka* hence act as quickly as *prativisha*/antidote. The multifold pharmacological

properties and actions of the ingredients make it worth of use not only in snake bite and other *visha* (poisoning) conditions but also in conditions of gastroenteritis, indigestion, fever etc.

Due to the actions and properties of its ingredients, it can be useful in poisoning conditions to give symptomatic relief. Further research works might be helpful to explore its exact mode of action and to use the formulation as a whole in poisoning conditions.

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