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# Preliminary Standarization of Murvadi Agada

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**ABSTRACT:** In the *Agada Tantra*, *Gara visha* is associated with any substance, synthetic or artificial in origin, that harms the body directly or through its toxic metabolites. *Acharya Susrutha* mentions different types of poisoning in *Garadhishthana*. In modern times, people are consciously or unconsciously exposed to different types of poisons, natural or artificial in origin. In this case, *Mūrvādi Agada* of the *Ashtanga Hridaya Uttarasthana Vishapratisheda* chapter is recommended in the context of *Garavisha*. *Mūrvādi Agada* is a unique and useful formula specially formulated for Agni Vikaras.

#### INTRODUCTION

In the *Agada Tantra*, *Gara visha* is associated with any substance, synthetic or artificial in origin, that harms the body directly or through its toxic metabolites. *Acharya Susrutha* mentions different types of poisoning in *Garadhishthana*. In modern times, people are consciously or unconsciously exposed to different types of poisons, natural or artificial in origin. In this case, *Mūrvādi Agada* of the *Ashtanga Hridaya Uttarasthana Vishapratisheda* chapter is recommended in the context of *Garavisha*. *Mūrvādi Agada* is a unique and useful formula specially formulated for Agni Vikaras.

It is a composite herbal formulation described in the context of "*Garopahat Paavaka*". Symptoms resulting from disorder of *Agni* due to administration of *Gara Visha*. This recipe is the only contribution of *Asthanga Karas* and has not been described anywhere else. *Mūrvādi Agada* should be administered along with *Anupanas* like *Ushana Jala, Takra, Mastu* and *Amla Rasa Dravyas*. Symptoms of *Gara Visha* can occur even in modern times due to the addition of toxic substances like animal excrement, poisonous medicines, *Viruddha Aushadhi* etc. to food.

In today's situation, all junk foods, colourings, food additives, preservatives, processed foods and drinks can be consumed as *Garavisha*. This can lead to *Agni Vikaras* (indigestion) like *Sthoulya*, *Arsha*, *Atisara* and *Udara Rogas*. *Mūrvādi Agada* when administered with proper *Anupana* is effective against these diseases.

#### Mūŗvādi Agada references:

Asthanga Hridaya/Uttarasthana/35. Chapter Asthanga Sangraha/Uttarasthana/40. Chapter

#### **Drug profile**

Sl no	Drug	Binomial	Family	Part used
		Nomenclature		
1	Mūŗvā	Chonemorpha	Asclepidaceae	Root
		<i>macrophylla</i> Roxb		
2	Amṛtā	Tinosporacordifoila	Menispermaceae	Stem
		Miers		
3	Nata	Valeriana wallichi Dc	Valerianaceae	Rhizome
		———— Раде 4827		

#### Indu PV, International Journal of Ayurvedic & Herbal Medicine 15(2) March-April, 2025 (4827-4832) 4 Piper longum Linn Piperaceae Pippalī Fruit 5 Patola Trichosanthus dioica cucurbitaceae Root Roxb 6 *Piper chaba* Trel.Yunk Piperaceae Root Cavya 7 Plumbaginaceae Citraka Plumbago rosea Linn Root 8 Vachā Acorus calamus Linn Araceae Rhizome 9 Cyperus Mustā Tuber rotundus Cyperaceae Linn Embelia Ribes Burm.F Myrsinaceae 10 Vidanga Fruit

#### Physico-chemical parameters Murvādi Agada

Physicochemical parameters were done as part of preliminary standardization of the drug. Methodologies were based on the methods described pharmacopeia of India. Parameters like total ash value, acid insoluble ash, water insoluble ash, sulphated ash, pH value, loss on dry, were determined. The results of physico-chemical parameters of *Murvādi Agada* are shown in table

Physicochemical parameters	Result (gm) (Mean $\pm$ SE)
Total Ash	$5.3\pm0.18\;w/w$
Acid insoluble ash	$5.03\pm0.27w/w$
Water insoluble ash	$1.06\pm0.06w/w$
Sulphated ash	$6.23\pm0.26~w/w$
Loss on drying	$6.16\pm0.26$ at $29\pm2.5~C$
pH	$4.16\pm0.08\ w/w$

#### **Phytochemical screening**

The *Murvādi Agada* aqueous extract (MAAE) was subjected to phytochemical screening for major secondary metabolites by standardized internationally accepted protocols as described by Harborne (1967) Trease and Evans' and other pharmacopeial standards. The results of phytochemical screening of *Murvādi Agada* aqueous extract is shown in table

Test done	Reaction
Alkaloids	•
Marqui's test	Negative
Wagner's test	Positive
Mayer's test	Negative
Froehd's test	Negaive
Dragendroff's test	Positive
Carbohydrates	•
Fehling test	Positive
Molish test	Negative
Protein	
Nimhydrin test	Negative
Glycosides	
Legal's test	Positive
Keller-killiani test	Positive
10%NaoH test	Positive

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Flavanoids	
Alkaline reagent test	Positive
Lead acetate test	Positive
Shinoda's test	Positive
Ferric chloride test	Negative
Tannins	
Ferric chloride test	Positive
Phytosterols	· ·
Salkowski's test	Negative
Lieberman –Burchardt's test	Negative
Phenols	
Iodine test	Positive
Ferric chloride	Negative
Lead acetate test	Negative
Cardiac glycosides	
Keller-killiani test	Positive

## HPTLC PROFILING

The phytochemicals were standardized by performing high performance thin layer chromatography of methanolic extract of *Murvādi Agada* in CAMA instrumentation and visualized at 254 and 366 nm UV light. In 254 nm visualization got 10 peaks with highest percentage area of 44.52 for peak 10. The lowest percentage area was 0.98 for peak 7. Similarly, in 366 nm 10 peaks were obtained with highest per area was 42.07 for peak no 10 and the lowest percentage area 1.18which was obtained for peak 7. The corresponding Rf values for the highest peak in 254 nm was 0.94and in 356 nm was 0.94. The results are shown in table and figure Rf value and area% of *Murvādi Agada* at 254 nm

HPTLC profiling at 254 nm

Peak	Max.Rf	Area	Area%
1	0.04	965.8	2.57
2	0.15	1203.1	3.20
3	0.20	1070.0	2.85
4	0.25	614.3	1.63
5	0.32	473.3	1.26
6	0.41	588.1	1.57
7	0.52	369.9	0.98
8	0.59	12569.6	33.45
9	0.71	2993.6	7.97
10	0.88	16728.3	44.52
Total numbe	er of peaks: 10	Maximum	area obtained on: Peak 10

Overview graph of Murvādi Agada at 254nm



Rf value and area% of Murvādi Agada at 366 nm

Peak	Max.Rf	Area	Area%
1	0.03	1019.0	2.82
2	0.15	1318.8	3.65
3	0.20	817.9	2.26
4	0.25	696.5	1.93
5	0.33	559.5	1.55
6	0.40	672.3	1.86
7	0.51	427.2	1.18
8	0.60	12518.6	34.65
9	0.72	2897.9	8.02
10	0.89	15196.5	42.07

Total number of peaks: 10Maximum area obtained on: Peak no.10Overview graph of Murvādi Agadaat 366 nm



### LCMS PROFILING

Characterization of phytochemicals was done by liquid chromatography-mass spectrometry using methanol extract of *Murvādi Agada*. A total of 261 compounds were found. Out of which 69 compounds were identified by name. Among this most of the compounds showed retention score between 81 to 89. Data processing of

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molecular ions obtained by ESI and APCI mass fragmentation led to the identification of several<br/>phytoconstituents belonging to various classes of compounds such as phenolics, flavonoids, and coumarins<br/>and glycosidesList of identified compounds are shown in tableCompoundsCompoundsAminoDHQBenzyl methyl disulfide<br/>L-Galactonate2-C-Methyl-D-erythritol4-Quercetin

phosphate 3-Dehydro-L-threonate

(R)-3,3-Dimethylmalate
Diethyl sulfate
Wistin
2-(Ethoxymethyl)phenol
Coumaroylnigrumin
Pisumoside B
Phrymarolin I
4-O-beta-D-Glucosylsinapate

Picrasin E Scillaren A

Caffeic aldehyde Bracteatin 6-O-glucoside Kanokoside A Kanokoside D Graveolone Guajavarin (1R,3S,4S,6R)-6,9-Dihydroxyfenchone6-Ob-Dglucoside Scopolin Lophophorine Genistin 4-Hydroxycoumarin Scopolin 3-Hydroxychavicol 1-[rhamnosyl-(1->6)-glucoside] Nonate Coixinden A Allyl phenoxyacetate 7,8-Dihydrovomifoliol 9-

Formononetin 7-(6"methylmalonylglucoside Calendoflaside syringaresinol 3,4-Dicaffeoyl-1,5-quinolactone 5-О-р-Premithramycin A1 Precorrin 5 9S,11R,15S-trihydroxy-2,3-dinor-13Eprostaenoic acidcyclo[8S,12R] Curcumin diglucoside 4,11,13,15-Tetrahydroridentin B Lepidine F Gomphrenin II Precorrin 5 Melilotussaponin O1 Gomphrenin II Kuwanone H Palmatoside G Gomphrenin II Piperolactam D Alanyl-Isoleucine Icariin Adhulupone

Piperolactam D Alanyl-Isoleucine Icariin Adhulupone 5-Megastigmen-7-yne-3,9-diol 9-glucoside 6-Gingerol DL-2-hydroxy valeric acid 3-Ketoapotrichothecene Baicalein

[apiosyl-(1->6)-glucoside]		
9alpha-Fluoro-		Spironolactone
6alphamethylprednisolone	21-	
acetate		
Laurolitsine		9,10-Epoxy-18-
		hydroxystearate
3-oxo-tetradecanoic acid		Glaucarubin
Fumigaclavine A		

#### CONCLUSION

*Murvadi Agada* is a unique and useful formulation, which is specifically prescribed for *Agni Vikara's*. It is a compound herbal preparation that is explained under the context of *"Garopahata Paavaka"* i.e., a condition which is a result of impaired *Agni* caused due to administration of *Gara visha*. The formulation is a sole contribution of *Asthanga Kara's* which is not explained elsewhere.

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