

PHARMACEUTICO ANALYTICAL STUDY OF VARUNADI KWATHA, CHANDRAPRABHA VATI AND GOKSHURADI GUGGULU PREPARATION

Astha Verma¹, Ratnapravha Mishra²

¹MD Kayachikitsa, Ph.D Scholar, Assistant Professor of Kayachikitsa Department, Mandsaur Institute of Ayurved and Research Mandsaur, BR Nahata pharmacy campus, near krishi upaj mandi, Mandsaur, Madhya pradesh, India

²MD, Ph.D (GAU) Professor and HOD of Kayachikitsa Department, Medical Superintendent, Mandsaur institute of Ayurveda education and research, BRNCOP campus, Near krishiupaj Mandi, Mhow neemuchroad, Mandsaur 458001

Corresponding Author: Astha Verma, MD Kayachikitsa, Ph.D Scholar, Assistant Professor of Kayachikitsa Department, Mandsaur Institute of Ayurved and Research Mandsaur, BR Nahata pharmacy campus, near krishi upaj mandi, Mandsaur, Madhya pradesh, India

ABSTRACT

Varunadi kwatha(Kashaya), Chandraprabha vati and Gokshuradi guggulu preparation is a Herbo-mineral formulation mentioned in Sharangadhara Samhita and Bhaishajyaratnawali for the Chikitsa of Muthravahastroto vikaras. Authentication was done before the pharmacological analytical study of this drug. The finished product was subjected for necessary analytical parameters. Present work was carried out to standardize the finished product of Varunadi kwath(Kashaya), Chandraprabha vati and gokshuradi guggulu preparation in terms of its identity, quality and purity. Pharmacognostical and Physico-chemical observations revealed all the specific characters of active constituents in the preparation. The data obtained could be useful in deciding the standards for this potential ayurvedic drug and can contribute in the uses and preparation of quality ayurvedic drugs. The same drugs were used for OPD practiced to rule out the efficacy. The resultant effects noted was positive and the symptoms were managed efficiently and also the patient feedback regarding the treatment protocol was good. This gives further motivation to prepare the medications by our own to achieve desired therapeutic efficacy with hundred percent genuine qualities.

Keywords: Chandraprabhavati, Gokshuradi guggulu, Varunadi kwath, Mutravaha srotas, Pharmaceutico-analytical study.

INTRODUCTION

Ayurveda is a life of science which is comprehensive system of health care based on mainly experiential knowledge. Many treatment and modalities are described in Ayurveda classics by all acharyas. Here selected medication was Varunadi kwath(Kashaya)¹, Chandraprabhavati² and Gokshuradi Guggulu³ preparations to evaluate authenticity through pharmacognostical procedures and develop the pharmacognostical and phyto-chemical profile to proven that medicine works better which described classically as in text. The medicines which were selected are combinely acts on Mutrahavaha srotovikaras(urinary tract disease) explained by Acharyasin Bhaishajyaratnawali and Sharandhar Samhita also. According to Bhaishajyaratnawali, Chandraprabhavati acts as sarwaroghara. It works on 20 types of prameha, 8 types of Mutrakrichhra, 4 types of Ashmari, 13 types of Mutraghata and Vriddhy, Panduroga, Kamala, Halimaka, Kasa, Shwas, Kushtha,

Agnimandhy, *Aruchi* all type of *Vata*, *Pitta* and *Kaphaja* disease.⁴ *Varunadi kwatha* (*Kashaya*) directly act on *Ashmari*.⁵ *Gokshuradi guggul* is the best drug for *Mutrakrichhra* and *Vata rogas*. It is one of herbs which is *Mutrual* (diuretics) as well as *Shothahara* (Anti-inflammatory).⁶

An effort was made towards manufacturing of these three medicines in order to use in OPD or clinically practices. This was insuring the potency and efficacy of the product hence effort was made for their pharmaceutical study.

MATERIAL AND METHODS

Medicine	Reference
<i>Varunadi kwath</i>	<i>Bhaishajyaratnawali Ashmari chikitsa</i> 6
<i>Chandraprabhavati</i>	<i>Bhaishajya Ratnawali Prameh chikitsa</i> 37/102
<i>Gokshuradi guggulu</i>	<i>Sharngdhar Samhita madhyam khanda</i> 7/ 84

All the raw materials use for the preparation where identified and Authenticated by the experts.

Method of preparation

All the medicines were collected and manufactured in pharmacy and identified and authenticated at pharmacognosy laboratory, Quality Control laboratories. ALN Rao memorial Ayurvedic medical college and PG center, Koppa, District: Chikmagalur, Karnataka. The ingredients and parts used in the preparation of the final products are listed.

All the raw materials use for the preparation were identified and authenticated by the experts.

Varunadi kwatha (*Kashaya*)-

Crataeva nurvala Buch.-Ham, *Tribulus terrestris Linn*, *Zingiber officinale Rosc*, (1 part each) with 16 part water *Hordeum vulgare Linn* (2 part). All raw materials were collected from market and through *Yavakut* method it converted into cores powder.

Gokshuradi guggul –

Terminalia chebula, *Terminalia bellerica*, *Terminalia officinalis*, *Cyperus rotundus* (4 part) *Zinziber officinalis*, *Piper nigrum*, *Piper longum* (1 part each). *Gokshura* (*Tribulus terrestris*) was taken in 6 part of water and decoction was subjected to heat until half of its remain. *Guggulu* (*Commiphora mukul* 30 part) was added to the filtered *Kashaya* which was boiled again to *rasakriya Paka*. Fine powder of remaining drugs was added and mixed well. *Vati* of uniform size and weight were prepared, dried in a shade and later it was stored in air tight container.

Chandraprabhavati-

The ingredients like *Cinnamomun camphora*, *Asphaltum*, *Cinnamomum camphora*, *Aconitum heterophyllum*, *Curcuma longa*, *Corus calamu*, *Cyprus rotundus*, *Emblica officinalis*, *Terminalia bellirica* (fruit rind), *Piper chaba*, *Terminalia chebula* (fruit rind), *Andrographis paniculata*, *Embelia ribes*, *Cedrus deodara*, *Coriander sativum*, *Tinospora cordifolia*, *Plumbago zeylanica* (lead wort), *Zingiber officinalis*, *Berberis aristata* (32 parts each) *Piper nigrum* (16 part), *Sodium carbonate*, *Potassium carbonate*, *Copper pyritis*, *Sodium sulphate*, *Black and Rock salt* (1 part of each), *Bambusa arundinacea* (4 part), *Loha bhasma* (8 part) *Commiphora mukul* (32 parts) etc. Fine powder of remaining drugs is added and mixed well. *Vati* of uniform size and weight were prepared, dried in a shade and later it was stored in air tight container.

Pharmaceutical Evaluation

This *Kwath/Kashaya churna* and 2 types of tablet was analyzed using various standard physicochemical parameters such as, Loss on drying, pH, water soluble extract, methanol soluble extract and ash value as per API at the pharmaceutical chemistry lab The color and Rf values of resolved spots were noted.

RESULTS

Result: Table 1	
Varunadi Kashaya	
A. Organoleptic Characters	
Colour	Green
Odour	Characteristic
Taste	Astringent, Bitter
Texture	Coarse powder
B. Physico-chemical parameters	
Foreign matter	0.05 %
Loss on Drying at 105°C	4.08%
Total ash	11.32%
Acid insoluble ash	1.73%
Water insoluble ash	7.57%
Water soluble extractives	31.71%
Alcohol soluble extractives	23.38%
pH (10% aqueous solution)	5.42 ± 0.10
C. Preliminary phytochemical Tests(Qualitative tests)	
Carbohydrate	Present
Protein	Present
Alkaloid	Present
Glycoside	Present
Flavonoids	Present
Tannins	Present
Triterpenoides	Present
Saponin	Present
Phytosteroid	Present
D. Fluorescence test	
Under visible light	
Powder + water	Light cream
Powder + alcohol	Light yellow
Powder+NaOH (10%)	Brown
Powder + HCL(10%)	Light cream

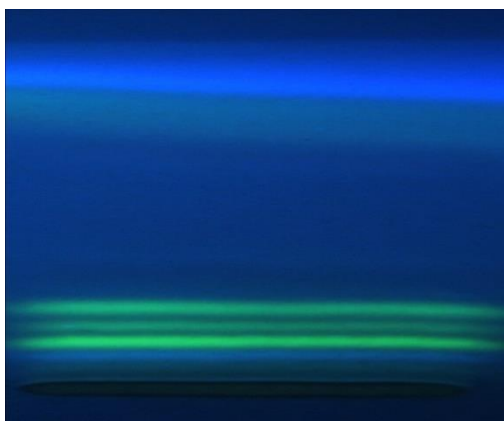
Powder+H ₂ SO ₄ (10%)	Light yellow
Powder +HNO ₃ (10%)	Light cream
Powder + NH ₃ (10%)	Light brown
Under long UV	
Powder + water	Fluorescent green
Powder + alcohol	Fluorescent cream
Powder + NaOH (10%)	Brown
Powder + HCL(10%)	Fluorescent green
Powder + H ₂ SO ₄ (10%)	Fluorescent green
Powder +HNO ₃ (10%)	Fluorescent yellow
Powder + NH ₃ (10%)	Brown
E. Microbialcontamination	
Total aerobic count	Nil
Total fungal count	Nil
G. Thinlayerchromatography	
Solvent System: Toluene : Ethyl acetate : Haxane::80:20:10	
Under long UV	
Rf	
0.09	Blue
0.16	Light florescent green
0.21	Light florescent green
0.29	Light florescent blue
0.63	Light florescent blue



Varunadi Kashaya FIGURE 1

Result: Table 2	
ChandraprabhaVati	
A. Organoleptic Characters	
Colour	Brown
Odour	Characteristic
Taste	Bitter, salty
Texture	Vati (pills)
B. Physico-chemical parameters	
Foreign matter	0.00 %
Loss on Drying at 105°C	7.34%
Total ash	21.84%
Acid insoluble ash	8.75%
Water insoluble ash	12.81%
Water soluble extractives	37.66%
Alcohol soluble extractives	12.78%
pH (10% aqueous solution)	5.86 ±0.10
Tablet Parameters	
Diameter in mm (Mean ± St. Dev.)	7±0.15
Weight (Mean ± St. Dev.)	550 ±12.41 mg
Friability (Loss percentage)	0.11%
Hardness (Kg/cm ²)	9.01±0.07
Disintegration time	10.55 minutes
C. Preliminary phytochemical Tests(Qualitative tests)	
Carbohydrate	Present
Protein	Present
Alkaloid	Present
Glycoside	Present
Flavonoids	Present
Tannins	Present
Triterpenoides	Present
Saponin	Present
Phytosteroid	Present
D. Fluorescence test	
Under visible light	
Powder + water	Light red
Powder + alcohol	Light brown

Powder + NaOH (10%)	Light red
Powder + HCL (10%)	Reddish - Brown
Powder+H ₂ SO ₄ (10%)	Light brown
Powder +HNO ₃ (10%)	Light brown
Powder + NH ₃ (10%)	Brown
Under long UV	
Powder + water	Fluorescent green
Powder + alcohol	Fluorescent yellow
Powder + NaOH (10%)	Brown
Powder + HCL (10%)	Fluorescent green
Powder + H ₂ SO ₄ (10%)	Fluorescent cream
Powder +HNO ₃ (10%)	Fluorescent yellow
Powder + NH ₃ (10%)	Brown
E. Quantitative test	
Total iron	4.78 %
F. Microbial contamination	
Total aerobic count	Nil
Total fungal count	Nil
G. Thin layer chromatography	
Solvent System: Toluene : Ethyl acetate : Hexane::80:20:10	
Under long UV	
Rf	
0.02	Florescent blue
0.07	Illuminated florescent blue
0.10	Light florescent green
0.14	florescent green
0.19	Blue
0.25	florescent green
0.30	Light florescent blue
0.38	Light florescent blue



Chandraprabha vati FIGURE 2

Result: Table 3	
<i>Gokshuradi Guggulu</i>	
A. Organoleptic Characters	
Colour	Grayish black
Odour	Characteristic
Taste	Astringent, bitter, pungent
Texture	Vati (pills)
B. Physico-chemical parameters	
Foreign matter	0.00 %
Loss on Drying at 105°C	7.53%
Total ash	9.34%
Acid insoluble ash	2.92%
Water insoluble ash	5.95%
Water soluble extractives	42.67 %
Alcohol soluble extractives	18.66%
pH (10% aqueous solution)	4.92 \pm 0.10
Tablet Parameters	
Diameter in mm (Mean + St. Dev.)	6 \pm 0.25
Weight (Mean + St. Dev.)	450 \pm 11.33 mg
Friability (Loss percentage)	0.79%
Hardness (Kg/cm ²)	10.11 \pm 0.09
Disintegration time	11.58 minutes
C. Preliminary phytochemical Tests(Qualitative tests)	
Carbohydrate	Present
Protein	Present

Alkaloid	Present
Glycoside	Present
Flavonoids	Present
Tannins	Present
Triterpenoides	Present
Saponin	Present
Phytosteroid	Present
D. Fluorescence test	
Under visible light	
Powder + water	Milky turbid
Powder + alcohol	Light cream
Powder + NaOH (10%)	Light yellow
Powder + HCL(10%)	Light cream
Powder + H ₂ SO ₄ (10%)	Light cream
Powder +HNO ₃ (10%)	Light cream
Powder + NH ₃ (10%)	Brown
Under long UV	
Powder + water	Fluorescent yellow
Powder + alcohol	Fluorescent green
Powder + NaOH (10%)	Fluorescent green
Powder + HCL (10%)	Fluorescent cream
Powder + H ₂ SO ₄ (10%)	Fluorescent yellow
Powder +HNO ₃ (10%)	Fluorescent cream
Powder + NH ₃ (10%)	Brown
F. Microbial contamination	
Total aerobic count	Nil
Total fungal count	Nil
G. Thin layer chromatography	
Solvent System: Toluene : Ethyl acetate : Hexane::80:20:10	
Under long UV	
Rf	
0.02	Blue
0.07	Light florescent green
0.10	florescent blue
0.14	Illuminated florescent yellow
0.19	florescent cream

0.25	fluorescent cream
0.30	Light fluorescent blue
0.37	Light fluorescent blue



Gokshuradi Guggulu FIGURE 3

DISCUSSION

The present work was evaluating the influence of *Chandraprabhavati*, *Gokshuradi guggulu*, and *Varunadi kwatha (Kashaya)* actions on urinary systems with improvement in all urinary profiles and to scientifically validate its traditional use in urinary tract diseases.

In the classics this three *Chandraprabhavati*, *Gokshuradi guggulu*, and *Varunadi kwatha(Kashaya)* mentioned in *Prameha chikitsa*, *Mutrakricchra chikitsa* and *Ashmari chikitsa adhyaya* combinely act on *Mutravaha srotas vyadhies* having the properties *Dosha karmata* (action on vital forces) *Tridosha shamaka*, *Dhatu karmata* (action on body elements) act on *medohara*, *balya*, *vrishya*, *rasayana*, *Agni karmata* (action on digestive fires) *deepana pachana*, *Mala karmata* (action on excretory system) *mutral*, *vibandhhara*, *Srotokarmata* (action on channels) *srotoshodhana*, *lekhan*.

The action of every drug is determined by the dominant pharmacodynamics factors. The line of treatment in *Ayurvedais* mainly based on *Dosha Chikitsa* (treatment).

ChandraprabhaVati A wonderful medicine and is suitable for all *Santarpana Janya vyadhy* have Properties like *tikta*, *katu*, *kashya*, *Lavana Kshar rasa pradhan*, *laghu*, *ruksha*, *vishada*, *sukshma*, *sitoshna* and *prabhava karma aushadha*, *Kaphahara*, *Jantughna*, *puyahara*, *Shulahaara*, *Mutral*. Act on different types of diseases of urinary system with different *Anupanas*. For example in *Asmarighna* with *Trinapanchamula Kashaya*, in UTI or renal calculi takes with *Punarnavasava*, in DM with *Katakakhadiradi Kashay* etc. It has multi-dimensional action and effective for acute and chronic cases. Broad spectrum antibiotic, tonic (Strengthen nerves) for urogenital system, anti-inflammatory, immunomodulator etc.⁷

Gokshuradiguggulu It has action on *Mutravaha Srotas* indicated in *Mutrakrichhra*, *Mutraghata*, *Ashmari*, *Prameha* etc. having the properties *Tridosahara*, *Madhura*, *Tikta*, *Katu Rasa Pradhana*, *Sitoshnaviryaaushadha*, *Mutral*, *Kledanashaka*, *Shophahara*, *Srotoshodhana*. It gives best result in *Niramaja/ Jirnarogavastha* with combination of *Chandraprabhavati*. It can reduce pain during

micturition, improve in scanty urination,UTI, generalized & Localized Oedema, Oedema due to renal diseases,BPH, urinary retention, hematuria, chronic renal failure.Broad spectrum anti-inflammatory, nephro-Protective,support prostatehealth, detoxifies lymphatic system and Urogenital System, strengthens kidneys and Prostate, and increase Vigor and Vitality.⁸

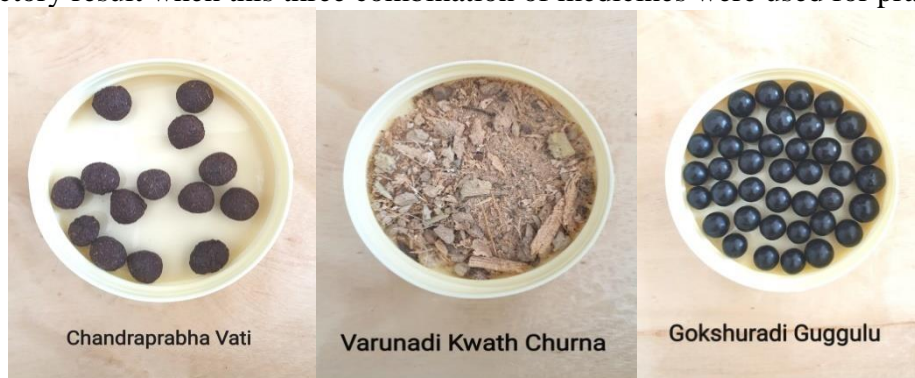
Varunadi kwath (Kashaya)the ingredients of *Varunadi Kwatha(Kashaya)* possess properties like of *Chedana, Bhedana, Lekhana, Tridoshgna, Mutrala, Mutrakrucchrahara, Anulomana, and Krimigna* which helps significantly in *Mutrashmaritreatment*. The ingredients of the formulation pacify *Kapha Dosha* by virtue of their *Tikta Kashaya rasa Ruksha Guna, Katu Vipaka and Ushna Virya*. The *Vatanulomana,Shothahara and Mutrala* properties helps to relieve pain and *Shotha*. Thus in total this formulation has the capacity to disintegrate the pathogenesis of the disease '*Ashmari*'.⁹

Later the decision was made to genuinely prepare these medicines and also for clinical use in OPD practice instead of using market available pharmaceutical product. Hence effort was made for *Chandraprabha Vati, Gokshuradi Guggulu and Varunadi Kwath(kashaya)*, was prepared by ideal pharmaceutical preparations to ensure the genuinely by examining all necessary analytical parameters. The results and analytical values were confirmed by pharmaceutical experts. All the parameters were within the range and there is nil microbial (aerobic and fungal) contamination.

Then only these preparations were used for clinical practice and shows best results in all urinary disease like renal stone, UTI etc. with all associate symptoms like Pain, burning micturition, dysuria, hematuria, urgency, polyuria, oliguria, nocturia, incontinence and enuresis, slow stream, terminal dribbling, urethral discharge with associated complained vomiting, fever with chill, indigestionwere treated very well.

Almost upto70% of patient complaining of pain along with burning micturition,there symptoms were subsided with this medication. Around 60% of cases with Urgency and oliguria were treated. The result was satisfactory

More than 75% of particular female patient's complaining of urinary infections (Excess of pus cells) were successfully treated with combination of *Chandraprabhavati* and *VarunadiKwath (kashaya)*. In renal stone associated symptoms like pain, vomiting, fever with chill, indigestion etc. were shows satisfactory result when this three combination of medicines were used for practice.



As this protocol explain by *Acharya sushrut* and help in *Samprapti vighatan of Mutravaha srotas vyadhies*. Satisfactory relief was seen in patient after taking medications with better results in chief and associated complaints. There was an improvement in the quality of life of the patient.

CONCLUSION

All the three classical medicines were prepared by necessary pharmaceutical parameters. The resultant outcome for patients was satisfactory. The *Guna & Prabhava* of medications enlisted in the classics was actually achieved and confirmed. This gives further motivation to prepare the medications by our own to achieve desired therapeutic efficacy with hundred percent genuine qualities.

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