



Research Article

A PHARMACOTHERAPEUTIC STUDY OF YASHTIMADHU ON KASA ROGA**Kiran Kumari^{1*}, Ram Adhar Singh², Sumit Kumar³**¹Ayush Medical Officer (M.D. Dravyaguna), APHC Ajwan, Naubatpur, Patna.²Professor, P.G. Dept. (Dravyaguna). ³Assistant Professor (Physiology), Govt. Ayurvedic College Patna, India.**Article info****Article History:**

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KEYWORDS:*Yashtimadhu churna,**Glycyrrhiza glabra.**Kasa Roga, Cough.***ABSTRACT**

Now a day, many persons of all age groups are suffering from *Kasa roga*. In modern science, it is called as cough, which is a voluntary and involuntary act that clears the throat and breathing passage. In *Charak Samhita*, *Kasa roga* is described as disease and symptoms of many diseases. *Kasa roga* are of 5 types. These are *Vataj*, *Pittaj*, *Kaphaj*, *Kshataj* and *Kshyaj*. *Yashtimadhu* is the plants which have property to cure the *Kasa roga*. I had done clinical trial on 20 patients for 90 days. Results are as follows: This 20 patients were treated with *Yashtimadhu churna* with honey B.D., 1 patient did not completed the trial. Out of 19 patients, 12 patients i.e., 63.16% were cured, 5 patients i.e., 26.32% were moderately improved and 2 patients i.e., 10.53% showed mild improvement.

INTRODUCTION

Ayurveda is the most ancient and traditional system of medicine in India. The Ayurvedic system of medicine is based on many centuries of experience. It maintains our physical and mental fitness with prevention and cure of diseases. Now a day, many persons of all age groups are suffering from *Kasa Roga*. So, I have decided to do clinical research on *Kasa roga*. Most of the researches are on acute cases, I did work on chronic cases also. *Yashtimadhu* is the plant which has property to cure the *Kasa Roga* which are described as follows.

Yashtimadhu ^[1,2]**Botanical name:** *Glycyrrhiza glabra* Linn.**Family:** Leguminosae**Properties*****Guna-*** *Guru, Snigdha****Rasa-*** *Madhura****Virya-*** *Sheet****Vipaka-*** *Madhura***Pharmacognostical and Phytochemical study of drug Process**

Yashtimadhu churna were received from P.G. Dept. Govt. Ayurvedic College, Patna. The foreign materials were separated from it, both drugs were washed with water and dried in sunlight, then they were grinded to make *Churna*. Then *Churna* was sent to Central Ayurveda Research Institute for Drug Development, CCRAS, Ministry of AYUSH, Government of India, Kolkata for Pharmacognostical and Analytical analysis.

Report of Pharmacognosticals standardization of *churna* by Dept. of Pharmacognosy Kolkata are as follows – Powder Microscopy: Powder shows presence of profuse lignified polygonal to hexagonal cork cells with reddish brown content, groups of aseptate fibres, groups of pitted and reticulate xylem vessels, groups of compactly arranged pitted xylem parenchyma, abundant crystal fibres single or in groups, groups of oval parenchymatous cells with prisms of calcium oxalate abundant simple oval or rounded starch grains, groups of lignified rectangular cells with bright orange yellow cell content, profuse prismatic crystals of Ca-oxalate.

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Fig. No. 1 Yashtimadhu Churna

Standardization of Yashtimadhu- *Glycyrrhiza glabra* L. (Root)

Table 1: Physicochemical Parameters

S. No.	Test parameters	Result (in %w/w)
1	Loss on drying	6.82
2	Ash value	5.35
3	Acid insoluble ash	6.97
4	Water soluble ext	36.6
5	Alcohol soluble ext	12.6
6	pH (10% Aq. Solution)	5.42

Table 2: Phytochemical Parameters

Yashtimadhu		
S. No.	Phytochemical Compounds	Result
1	Alkaloids	+
2	Carbohydrates	+
3	Flavonoids	+
4	Saponins	++
5	Steroids	+
6	Tannins	+
7	Starch	+
8	Acid Test	-

Diseases Review

Kasa rog^[3]

Pranavayu obstructed in the respiratory tract due to any reason combines with *Udaan Vayu* which move upward and produces a typical sound like broken bronze vessel is called as *Kasa*.

When there is obstruction in the below movement of *Vata* it comes in upper channel and take the property of *Udan vayu* then it comes in throat, chest region and also fulfill all channels of *Sira* (head). It causes pain in jaw, carotid region, orbit, eye balls etc. It also causes strains and stiffness in back, chest and thoracic region. Dry cough or phlegm has produced.

In *Brihatrayi*^[4,5] as well as in *Laghutrayi*^[6,7] there are 5 types of *Kasa*

1. *Vataj Kasa*
2. *Pittaja Kasa*
3. *Kaphaja Kasa*

4. *Kshataja Kasa*

5. *Kshayaja Kasa*

Dosh Dushya Adhistan

Dosh- Vaatpradhaan kapha

Dushya- Raas, Swaryantra

Srotas- Rasvaha, Pranavaha

Adhistaan- Pranavaha srotas, Urah kantha, Shwaspath.

Sroto vikaar- Soth, Sang.

Pathya-Apatha^[8]

Pathya- Shali Shashti rice, wheat, Mudga, Kulattha, Ghrita, Milk, Munakka, Ela, Pippali, Maricha, Sonth, Jivanti, Lahasuna, Ushna Jala, Madhu etc.

Apathya- Maithuna, Virudh aahar, Medya Padartha, Madhura Dravya, Divaswapa, Maithun, polluted air, pumpkin, papaya, Dadhi, fish, cold water etc.

Symptoms which is taken for study in clinical trial

Main symptoms of Vataj Kasa- *Shushkakasa, Swarabhedha, Daurbalya, Hritparsvasool and Shirah shool.*

Main symptoms of Pittaj Kasa- *Trishna, Tiktasyata, Daha and Pitanisthivan.*

Main symptoms of Kaphaj Kasa- *Shwetanishtheevana, Vaman, Peenas and Mandagni.*

MATERIALS AND METHODS

Diagnostic Methods

A special Performa was prepared including all signs and symptoms based on Ayurvedic classics. It also includes points regarding the state of *Dosha, Dushya* and *Srotas Pariksha*. A detailed clinical history was taken of each patient. On the basis of Performa to exclude other conditions, TLC, DLC, Hb%, ESR, chest X-ray of the patient carried out.

Inclusion Criteria

Age group of 12 to 65 years.

With the sign and symptoms of *Kasa* as mentioned in classics.

Exclusion Criteria

Kshataja, Kshayajakasa, patients suffering from any systemic disorder (like tuberculosis, asthma, and diabetes mellitus etc.) and *Kasa* as a complication of any disease will be excluded from the study.

Other complicated respiratory diseases having any organic lesion such as tumor or any anatomical defect in airway.

Patient suffering from serious diseases, pregnant women, child will be excluded from the study.

Posology

Yashtimadhumoola churna 6g/day (two divided doses)

Route of administration: Oral

Time of Administration: before meal.

Anupana: Madhu

Duration: 90 days.

Assessment of total effect of therapy

The following criteria were adopted to assess the total effect of therapy on the registered patients.

Complete Improvement: 100% relief in signs and symptoms of *Kasa*.

Moderately Improvement: >50% and < than 100% relief in signs and symptoms of *Kasa*.

Mild Improvement: >25% and < than 50% relief in signs and symptoms of *Kasa*.

No Improvement: Below 25% relief in signs and symptoms of *Kasa*. Further the effect of the treatment of signs and symptoms were analyzed statistically by Mean, SD, SE, 'paired t test'.

RESULTS AND DISCUSSION

Distribution of Patients

Table 3: Distribution of patients having chief complaints of Poorvaroop of Kasa

Symptoms	No. of Patients
<i>Shookpurnaglasayata</i>	16
<i>Kanthe kandu</i>	14
<i>Aruchi</i>	15

Effect of Yashtimadhu

Table 7: Effect of Yashtimadhu on Poorvaroop of Kasa

Signs/ Symptoms	Mean		Diff.	% Relief	SD	SE	't' value	'p' value	S
	BT	AT							
<i>Shookpurnaglasayata</i>	1.37	0.26	1.11	81.02	0.66	0.15	7.32	<0.001	HS
<i>Kanthe kandu</i>	1.47	0.31	1.16	78.91	0.83	0.19	6.05	<0.001	HS
<i>Aruchi</i>	1.37	0.32	1.05	76.64	0.71	0.16	6.50	<0.001	HS

The initial mean score of *Shookpurnaglasayata* was 1.37, after the treatment score reduced to 0.26 with relief of 81.02% from statistical point of view, this effect was highly significant (p<0.001). The initial mean score of *Kanthe kandu* was 1.47 and it was reduced to 0.31 after the treatment showing 78.91 % improvement and it was statistically highly significant (p<0.001). The initial mean score of *Aruchi* was 1.37 which also reduced to 0.32 with 76.64 % relief and was statistically highly significant (p<0.001) effect.

Table 8: Effect of Yashtimadhu on Vataj Kasa

Signs/ symptoms	Mean		Diff.	% Relief	SD	SE	't' value	'p' value	S
	BT	AT							
<i>Shushkakasa</i>	1.0	0.31	0.69	69.00	0.88	0.20	3.36	<0.05	S
<i>Swarabheda</i>	0.58	0.16	0.42	72.41	0.51	0.12	3.62	<0.05	S
<i>Daurbalya</i>	1.11	0.32	0.79	71.17	0.79	0.18	4.37	<0.001	HS
<i>Hritparsvasool</i>	1.21	0.32	0.89	73.55	1.10	0.25	3.54	<0.05	S
<i>Shirahshool</i>	1.05	0.32	0.73	69.52	0.56	0.13	5.72	<0.001	HS

In this group the initial mean score of *Shushkakasa* was 1.00, after the treatment score reduced to 0.31 with relief of 69.00% from statistical point of view, this effect was significant (p<0.05). The initial mean score *Swarabheda* was 0.58 and it was reduced to 0.16 after the treatment showing 72.41% improvement and it was statistically significant (p<0.05). The initial mean score of *Daurbalya* was 1.11 which reduced to 0.32 with 71.17%

Table 4: Distribution of patients having chief complaints of Vataj Kasa

Symptoms	No. of Patients
<i>Shushkakasa</i>	8
<i>Swarabheda</i>	8
<i>Daurbalya</i>	11
<i>Shirahshool</i>	13
<i>Hritparsvasool</i>	9

Table 5: Distribution of patients having chief complaints of Pittaj Kasa

Symptoms	No. of Patients
<i>Trishna</i>	8
<i>Tiktasyata</i>	7
<i>Daha</i>	8
<i>Pitanisthivan</i>	8

Table 6: Distribution of patients having chief complaints of Kaphaj Kasa

Symptoms	No. of Patients
<i>Shwetanishtheevana</i>	8
<i>Vaman</i>	9
<i>Peenas</i>	7
<i>Mandagni</i>	8

relief and was statistically highly significant ($p < 0.001$). The initial mean score of *Hritparsvasool* was 1.21 which reduced to 0.32 with 73.55% relief and was statistically significant ($p < 0.05$). The initial mean score of *Shirahshool* was 1.05 which also reduced to 0.32 with 69.52% relief and was statistically highly significant ($p < 0.001$).

Table 9: Effect of Yashtimadhu on Pittaj Kasa

Signs/ symptoms	Mean		Diff.	% Relief	SD	SE	't' value	'p' value	S
	BT	AT							
<i>Trishna</i>	0.68	0.16	0.52	76.47	0.70	0.16	3.29	<0.05	S
<i>Tiktasyata</i>	0.47	0.11	0.36	76.60	0.50	0.11	3.24	<0.05	S
<i>Daha</i>	0.74	0.16	0.58	78.38	0.77	0.18	3.28	<0.05	S
<i>Pitanisthivan</i>	0.58	0.11	0.47	81.03	0.61	0.14	3.37	<0.05	S

The initial mean score of *Trishna* was 0.68, after the treatment score reduced to 0.16 with relief of 76.47% from statistical point of view, this effect was significant ($p < 0.05$). The initial mean score of *Tiktasyata* was 0.47 and it was reduced to 0.11 after the treatment showing 76.60% improvement and it was statistically significant ($p < 0.05$). The initial mean score of *Daha* was 0.74 which reduced to 0.16 with 78.38% relief and was statistically significant ($p < 0.05$). The initial mean score of *Pitanisthivan* was 0.58 which reduced to 0.11 with 81.03% relief and was statistically significant ($p < 0.05$).

Table 10: Effect of Yashtimadhu on Kaphaj Kasa

Signs/ symptoms	Mean		Diff.	% Relief	SD	SE	't' Value	'p' value	S
	BT	AT							
<i>Shwetanishtheevana</i>	1.00	0.31	0.69	69.00	0.89	0.20	3.37	<0.05	S
<i>Vaman</i>	0.84	0.26	0.58	69.05	0.69	0.16	3.64	<0.05	S
<i>Peenas</i>	0.53	0.16	0.37	69.81	0.50	0.11	3.24	<0.05	S
<i>Mandagni</i>	0.95	0.26	0.69	72.63	0.89	0.20	3.37	<0.05	S

Table 11: Effect of Yashtimadhu on Hematological Parameter

Lab. Finding	Mean		Diff.	% Relief	SD	SE	't' value	'p' value	S
	BT	AT							
TLC	8789.47	8284.26	505.21	5.75	801.02	183.76	2.75	<0.05	S
Neutrophil	65.89	63.16	2.73	4.14	4.84	1.11	2.46	<0.05	S
Lymphocyte	27.42	31.63	-4.21	-15.35	4.67	1.07	-3.93	<0.05	S
Eosinophil	3.58	2.16	1.42	39.66	0.77	0.18	8.06	<0.001	HS
Monocyte	2.47	2.42	0.05	2.02	0.62	0.14	0.4	>0.05	IS
Hb%	76.16	78.49	-2.33	-3.06	2.17	0.50	-4.76	<0.001	HS
ESR	33.58	21.21	12.37	36.84	4.92	1.13	10.95	<0.001	HS

The initial mean score of TLC was 8789.47, after the treatment score reduced to 8284.26 with relief of 5.75% from statistical point of view, this effect was significant ($p < 0.05$). The initial mean score of Neutrophil was 65.89, after the treatment score reduced to 63.16 with relief of 4.14% from statistical point of view, this effect was significant ($p < 0.05$). The initial mean score of Lymphocyte was 27.42, after the treatment score increased to 31.63 with relief of 15.35% from statistical point of view, this effect was significant ($p < 0.05$). The initial mean score Eosinophil was 3.58 and it was reduced to 2.16 after the treatment showing 39.66% improvement and it was statistically highly significant ($p < 0.001$). The initial mean score of Monocyte was 2.47 which reduced to 2.42 with 2.02% relief and was statistically insignificant ($p > 0.05$). The initial mean score of Hb% was 76.16% which increased to 78.49% with 3.06% increased and was statistically highly significant ($p < 0.001$). The initial mean score of ESR was 33.58 which also reduced to 21.21 with 36.84% relief and was statistically highly significant ($p < 0.001$). *Yashtimadhu mool churna*, due to *Laghu*, *Ruksha guna*, *Usna virya*, *Katu vipak* it acts on *Kaphaj Kasa*. Due to *Kashay*, *Tikta rasa* it acts on *Pitaj kasa* and due to *Usna virya* it acts on *Vataj kasa*.

Yashtimadhu churna have given good result in *Vataj*, *Pitaj* and *Kaphaj Kasa* due to *Guru*, *Snigdha* and *Madhur* it is *Vatashamak*, due to *Madhur* and *Sheet* it is *Pittashamak*, due to *Tikta ras (Kinchit)* it is *Kaphashamak*. 9 patients get cured between 15 to 30 days. 3 patient get cured in 45 days. 1 patient gets cured in 60 days. 6 Patients have taken medicine for 90 days. *Kasa* reoccurred in 1 Patient who gets cured in 60 days in previous treatment

Table 12: Total Effect of Treatment

Improvement	Yashtimadhu Churna with Honey	
	No. of Patients	%
Complete improvement	12	63.16
Moderately improvement	5	26.32
Mild improvement	2	10.53
No improvement	0	0

CONCLUSION

Yashtimadhu (Glycyrrhiza glabra Linn.) Guna-Guru, Snigdha. Rasa- Madhura. Vipaka-Madhur. Virya-Sheet. Disease review consists of both Ayurvedic and Modern description of *Kasa roga*. It is *Vata pradhan Kaph dusti janya roga*. *Rasavaha* and *Pranvaha Srotas* are involved, *Dusya* are *Raas* and *Swar yantra*. *Adhistan* are *Pranvaha srotas, urah kantha, Shwaspath*.

Patients were treated with *Yashtimadhu churna*. Total 20 patients are taken in clinical trial, 1 patient does not completed the trial, out of 19 patients after completion of treatment 12 patients i.e., 63.16% were cured, 5 patients i.e., 26.32% were moderately improved and 2 patients i.e., 10.53% showed mild improvement

Yashtimadhu churna have given good result in *Vataj*, *Pitaj* and *Kaphaj Kasa*. Overall effect of *Yashtimadhu* is 63.15%.

No adverse effect was noted during the treatment and follow-up period.

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