


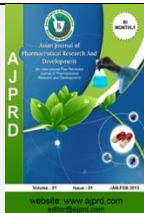
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Research Article

## Studies on Urdhwaga Amlapitta (Gastritis) and its Management with Shatavari Ghruta

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### ABSTRACT

Amlapitta (Gastritis) is very common ailment found in present time. Amlapitta as per Ayurveda is a disease in which excessive secretion of Amla Guna of Pitta takes place causing symptoms like burning sensation. Though there are many opinions regarding Modern interpretation of *Amlapitta*, specifically it can be correlate with Gastritis. There are two types of amlapitta mainly Adgoga and Urdhwaga Amlapitta. Type of Amlapitta in which the pitta takes an upward course the patient has mainly vomiting with different colors, burning sensation, headache, loss of appetite, kapha – pittaja jwara, feeling of great heat etc. is called as Urdhwaga Amlapitta. Present study is carried out to assess the efficacy of Shatavari ghruta in Urdhwaga Amlapitta and see the comparative results of Shatavari ghruta and sutshekhar ras and kamdudha rasa in Urdhwaga Amlapitta. For this study 50 patients were selected according to subjective and objective criteria of *Urdhwaga Amlapitta* and Details of materials and methods, observation and results, statistical analysis, results and discussion of the study with conclusion were described in detail in present article. From this study it can be concluded that Urdhwaga Amlapitta can be managed effectively with Shatavari ghruta as well as with Sutshekhar rasa and Kamdudha rasa as both the groups shows equally effective results statistically.

**Keywords:** Amlapitta, Gastritis, Urdhwaga Amlapitta, H.pylori antibody detection test, Gastric Analysis test, Shatavari Ghruta,

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### INTRODUCTION

Ayurveda is the science that imparts all the knowledge of life. It is well known that, Ayurveda had adopted a scientific methodology and risen to great heights over 2000 years ago. New discoveries are possible only if an idea is proposed in scientific manner. There are many interesting field of human ailments where in spite of rapid advances of modern medicine, Ayurveda still be the beacon of light. "Vagbhata I" in the Ashtanga Samgraha Sutrasthana mentioned that "Sakaloapichayam Rogasmuh pratikarvan ayurved vihitmupa desampeksate " that means all the diseases can be treated and treatment of these diseases are in Ayurveda so all the diseases required Ayurvedic

treatments.<sup>1</sup> Amlapitta has become a common ailment in modern civilized society in view of the irregular dietetic habits. Modern competitive life does not permit today to go for a systemic dietetic regimen and this unfortunately results in several G. I. disturbances of which Amlapitta stands first. Amlapitta is the disease of Annavaha strotasa or G.I. tract which is classified according to pravrutti into 2 catagories viz- Urdhwaga and Adhoga.<sup>2</sup> The present research work is specially on Urdhwaga Amlapitta which can be correlated with Acid gastritis (Acid dyspepsia or Hylperchlorhydria.) Amlapitta is one of the diseases for which no satisfactory treatment exists in Modern Medicine. While in Ayurveda a number of result oriented

formulations have been recommended in Ayurvedic classics for its treatment in addition to Pancakarma Chikitsa.

The description of Amlapitta as a separate disease is not found in Bruhatraai but there are many scattered references in Charaka Samhita regarding to it. Kashyapa Samhita is the first classical text in which details of Amlapitta is described.<sup>3</sup> Madhavakara has also described Amlapitta with sub types<sup>4</sup> and latter scholars followed them. Amlapitta is of two types Urdhwaga Amlapitta and Adowa Amlapitta.

Type of Amlapitta in which vomiting with different colour before or during digestion of food, bitter or sour belchings, heartburn, and the symptoms of pitta kaphajaanubandha are found is called as Urdhwaga Amlapitta.<sup>5</sup> Urdhwaga Amlapitta is mainly caused by intake of Amla (sour), katu (pungent), lavana (salty) aharas, guru, snigdha, Abhishandhiharas, addictions like smoking, alcohol, tobacco chewing, and also by excessive stress, condiments. The drugs like NSAID's, corti co-steroids, Phenyl butazone also cause this disease.

The line of treatment in Amlapitta can be mainly of 3 types<sup>6</sup> –

- Nidanaparivarjanam
- Samshodhana
- Samshamana.

In Samshamana Chikitsa mainly tikta rasa pradhana pachak aushadhis & kapha pittaghna chikitsa should be given.

Many following previous research scholars have studied on specially Urdhwaga type of Amlapitta in different ways like Tayade V. (1988), Kulkarni A. B. (1989), Bhandare in (1991), Panjihade (1992), Shepal S. S. (1992), Gogad G. (2004). They all found encouraging results in their studies. Though lot of research work is undergoing throughout the world to control this disease, still there is need of more research regarding practical aspect in the management of the disease so present study is carried out.

#### AIMS & OBJECTIVES OF THE STUDY:

- To assess the efficacy of Shatavari Ghruta in the management of Urdhwaga Amlapitta.
- To study the comparative results of Shatavari Ghruta to Sutshekhara Rasa & Kamdudha Rasa in Urdhwaga Amlapitta.
- To study the etiopathological aspects of Amlapitta and Urdhwaga Amlapitta.
- To study the association of H. Pylori with Urdhwaga Amlapitta if any.
- To study the changes of acid output in patients of Urdhwaga Amlapitta with Shatavari ghrta and Sutshekhara Rasa & Kamdudha Rasa.

#### Materials and Methods:

##### 1) Drugs:-

**Selection of drugs:** - The drugs taken for study were as follows.

- Shatavari Ghruta.
- Sutashekhara Rasa and Kamadudha Rasa.

##### Preparation of drug: -

The drugs were prepared in Ausadhi Nirmana Rasasala R. T. Ayurveda Rungnalaya Akola. Sutashekhara Rasa and Kamadudha Rasa were prepared as mentioned in Rasayogasagara by vd. Pandit Hariprapannaji.<sup>7</sup>

##### Method of preparation of Shatavari Ghruta:

In this clinical trial we adopted a general method of preparation of ghruta as described in text of "Pharmacopiel standards for Ayurvedic formulations"<sup>8</sup> as follows.

##### Preparation of Kalka:-

Tubers of shatavari were finely chopped and immersed in the sufficient amount of water for 12 hrs (from 6pm – 6am) then the thin layer of tubers wiped out and were grinded into paste in mixer grinder.

##### Preparation of Ghruta :-

(Here preparation of 1 kg of Shatavari Ghruta was described.) 1kg of Goghruta was taken in a large steel pot and melted with mild heat, and then Shatavari Mulakalka 250 gr and 4kg Godugdha is added & boiled together on mild to moderate heat. Thus prepared Ghruta was filtered and stored in a bottle.

##### Patient:-

**Selection of patients:** - In the present clinical study 53 patients were diagnosed as Urdhwaga Amlapitta and included in study, out of which 3 drop outs during the complete course of treatment. Patient is treated as outdoor patient of Ayurveda Rungnalaya and Anusandhan Kendra & Ayurveda Rungnalaya (old hospital) station Road, Akola and indoor patient of Ayurveda Rungnalaya and Anusandhana Kendra, Akola.

##### 1) Subjective Criteria:-

##### Inclusion criteria:-

Patients suffering from Urdhwaga Amlapitta fullfilling essential criteria were included for present study.

- i) Avipaka
- ii) Utklesha
- iii) Tikta-amlodgara
- iv) Kantha-hrut-kukshidaha
- v) Agnimandya
- vi) Chardi.

The patients of either sex and between the ages of 20 – 70 were selected.

Detail clinical history, special findings and assessment notes were noted in the special research Proforma.

#### Exclusion criteria:-

- Patients with significant hepatic, renal, hematological, neurological or psychiatric disorders were excluded from the study.
- Patients with concurrent gastric or duodenal ulcer or with its complications, Gastric carcinoma or Zollinger–Ellison syndromes were excluded from the study.

#### 2) Objective Criteria:-

**Gastric analysis test:** - Free HCl more than 15-18.5 Meq/L and Total acidity level more than 25- 30 Meq/L was considered for the patient of Urdhwaga Amlapitta.

**Laboratory investigations:-** 1. Hb%, 2.TLC, 3.DLC, 4.ESR, 5.Urine complete, 6. Stool complete, 7. Serological test for detection of antibodies developed by H. Pylori.

#### Research Methodology:-

**Sampling method:-**After complete examination and investigation of all the Patients were divided into two groups by simple random sampling

**Treatment Group:** - Present clinical study includes group A and group B each contain 25 patients.

**Group A:** - This group was treated with Shatavari Ghruta.

**Dose:** - 10 -20 ml, BD (orally) for 12 week.

**Anupana:** - Lukewarm milk.

**Group B:** - This group was treated with Sutashekhara Rasa and Kamadudha Rasa.

**Dose:** - Each 250 to 500 Mg. TDS (orally) for 12 weeks.

**Anupana:** - Lukewarm milk.

The patients were examined according to symptomatic relief at every week and reporting was noted in specially prepared research Proforma.

#### A) Udarshula:-

A	Patient is bedridden.	++++
B	Pain disturbs daily routine.	+++
C	Pain does not disturb daily routine	++
D	When keenly paid attention, notices pain.	+
E	No pain.	0

#### B) Avipaka :-

A	Patients can't digest daily even liquid diet and daily routine is disturbed.	++++
B	Patients can't digest solid diet daily routine work was not disturbed.	+++
C	Patients can't digest solid diet intermittently.	++
D	Patients can't digest occasionally 2- 3 times a week.	+
E	No indigestion.	0

**Duration of treatment:** - Each group was treated for 12 weeks.

#### Controlled conditions:-

##### a) Dietetic regimen:-

- Patients were advised to take One cup milk and fresh light breakfast in the morning
- Patient were allowed to take meal two times a day with strict follow up of advised pathya apathya
- Patient was advised to take luke warm water for drinking.

##### b) Exercise:-

Daily practice and Yoga was advised to the patient. Emphasis was given on special type of Asana which was helpful in Amlapitta like Vajrasana, Halasana, Shalabhasana, Pawanmuktasana, Surya Namaskara etc.

##### c) Behavior:-

- Patients were advised to engage at least one hour in his or her hobby like reading.
- Patients were advised not to suppress natural urges.
- Confirmatory cross check is carried out to find out whether patient following controlled conditions or not.

#### Assessment of results:-

The effect of the drug under clinical trial was based on cardinal signs and symptoms of disease and decrease in free and total acidity level. For the every major symptom scoring pattern was applied. Some and they are mentioned below. The statistical analysis was done using paired t-test and S. D., S. E. and 'T' value were calculated on the basis of before and after treatment score and decrease in free and total acid.

**Scoring pattern:** - Scoring of signs and symptoms of Urdhwaga Amlapitta for the assessment of results:-

**C) TiktaAmlodgara:-**

A	Severe Tikta – amlodgara disturbing sleep.	++++
B	Tikta -Amlodgara only in a day with disturbing sleep.	+++
C	Tikta -Amlodgara sometimes in a day.	++
D	Tikta -Amlodgara sometimes in a week.	+
E	No Amlodgara at all.	0

**D) Kantha- hrut –kukshi-daha(burning sensation in throat,chest,abdomen) :-**

A	Burning sensation in throat, chest and upper abdomen and does not relieved without medicine.	++++
B	Burning sensation in throat chest and upper Abdomen and relieved after digestion of food or vomiting.	+++
C	Burning sensation in one or two of the above mentioned area's& relived after digestion of food or vomiting.	++
D	Burning sensation in one of the above Mentioned areas and relieved by intake of milk or cold drink.	+
E	No burning sensation and upper abdomen.	0

**E) Aruchi:-**

A	Unable to identify the any of the rasas with efforts.	++++
B	Able to identified the one or two of the rasas with efforts.	+++
C	Able to identify the one or two of the rasas without efforts.	++
D	Able to identify all of the rasas without efforts.	+
E	Able to identify all the rasas.	0

**F) Chardi :-**

A	Frequency of vomiting after every meal or once in a day.	++++
B	Frequency of vomiting between 4 to 5 per week.	+++
C	Frequency of vomiting not more then 1 or 2 in a week.	++
D	Feels sense of nausea but vomits occasionally.	+
E	No vomiting at all.	0

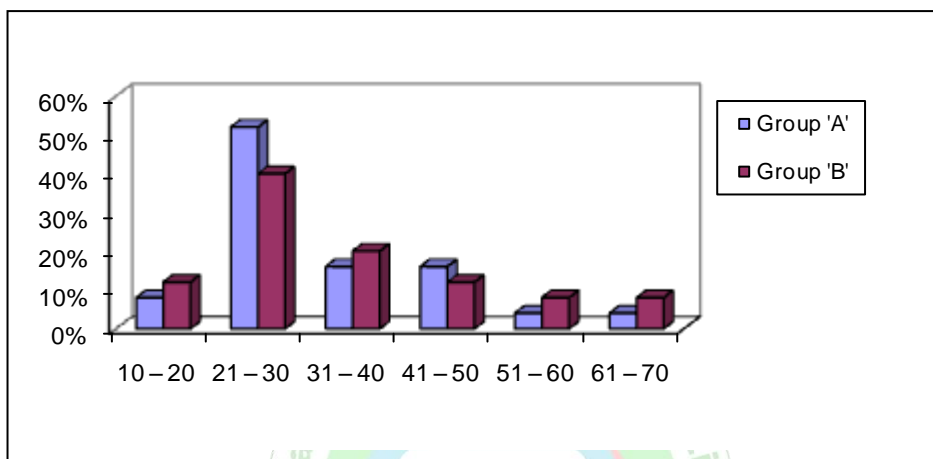
**RESUTLS AND DISCUSSION**

The present clinical study has been carried out on 50 patients of Urdhwaga Amlapitta and divided in to two

groups, 25 patients in each group. The data collected were distributed according to age, sex, religion, income, occupation etc. and tabulated. The tabulated data is discussed and graphically presented as follows:-

**Table 1:** Age wise classification of 50 patients of Urdhwaga Amlapitta

Sr. No.	Age in Yrs.	No. of Patients		Total	%
		Group 'A'	Group 'B'		
1.	10 – 20	02 (08%)	03 (12%)	05	10
2.	21 – 30	13 (52%)	10 (40%)	23	46
3.	31 – 40	04 (16%)	05 (20%)	09	18
4.	41 – 50	04 (16%)	03 (12%)	07	14
5.	51 – 60	01 (4%)	02 (8%)	03	06
6.	61 – 70	01 (4%)	02 (8%)	03	06



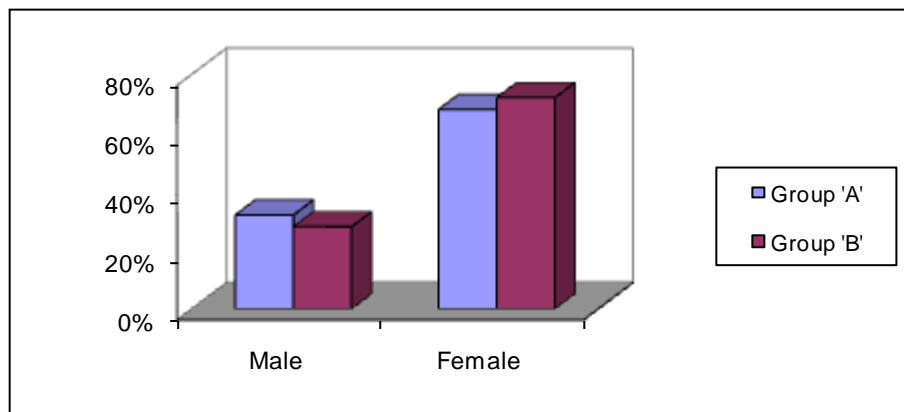
**Figure 1:** Age wise classification of 50 patients of Urdhwaga Amlapitta

Above observation shows that incidence of Urdhwaga Amlapitta is maximum in 20-30 Age Group followed by 31 to 40 Age group, both these groups belongs to pitta predominant period.

**Table 2:** Sex wise classification of 50 patients of Urdhwaga Amlapitta :-

Sr.No.	Sex	No. of Patients		Total	%
		Group 'A'	Group 'B'		
1.	Male	08 (32%)	07 (28%)	15	30
2.	Female	17 (68%)	18 (72%)	35	70

Above Table indicates that, incidence of Urdhwaga Amlapitta is more in female then male, the higher chances are due to mental stress, suppression of natural urges.



**Figure 2:** Sex wise classification of 50 patients of Urdhwaga Amlapitta

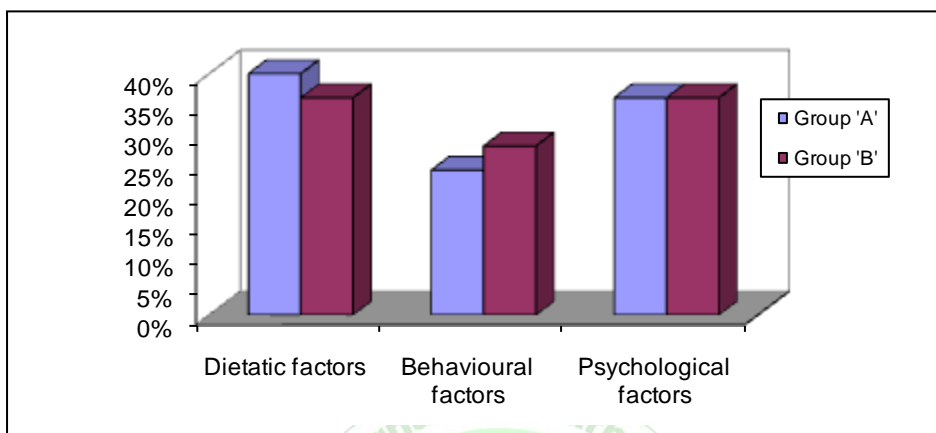


**Table 3:** A etiological factors wise distribution of 50 patients of Urdhwaga Amlapitta

Sr. No.	A etiological factors	No. of Patients		Total	%
		Group 'A'	Group 'B'		
1.	Dietetic factors	10 (40%)	09 (36%)	19	38
2.	Behavioural factors	06 (24%)	07 (28%)	13	26
3.	Psychological factor	09 (36%)	09 (36%)	18	36

Above observation indicates that 38% patients were having dietetic factor as main cause of the disease followed by 36% patients having psychological factor &

26% patients were having behavior factor as a main cause of the disease. These tables clarify the importance of dietetic factor in Urdhwaga Amlapitta.



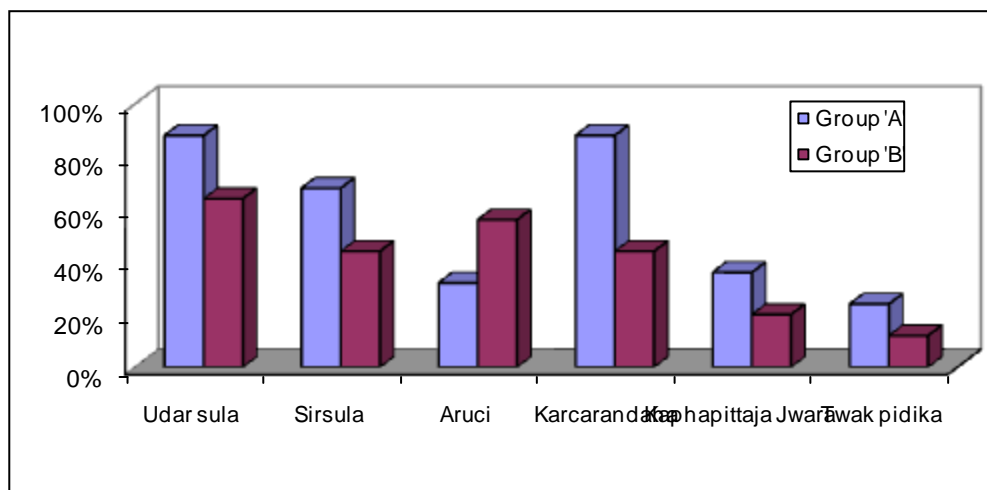
**Figure 3:** A etiological factors wise distribution of 50 patients of Urdhwaga Amlapitta

**Table 4:** Associated symptoms wise distribution of 50 patients of Urdhwaga Amlapitta :-

Sr. No.	Associated symptoms	No. of Patients		Total	%
		Group 'A'	Group 'B'		
1.	Udarshula	22 (88%)	16 (64%)	38	76
2.	Sirshula	17 (68%)	11 (44%)	28	56
3.	Aruchi	08 (32%)	14 (56%)	22	44
4.	Karcharandaha	22 (88%)	11 (44%)	33	66
5.	KaphapittajaJwara	09 (36%)	05 (20%)	14	28
6.	Twakpidika	06 (24%)	03 (12%)	09	18

Above observation indicates that among the associated symptoms the symptom found in highest patients is

Udarshula (76%) followed by symptom Karcharandaha (66%). Twakpidika is found in least patient's i. e. (18%).



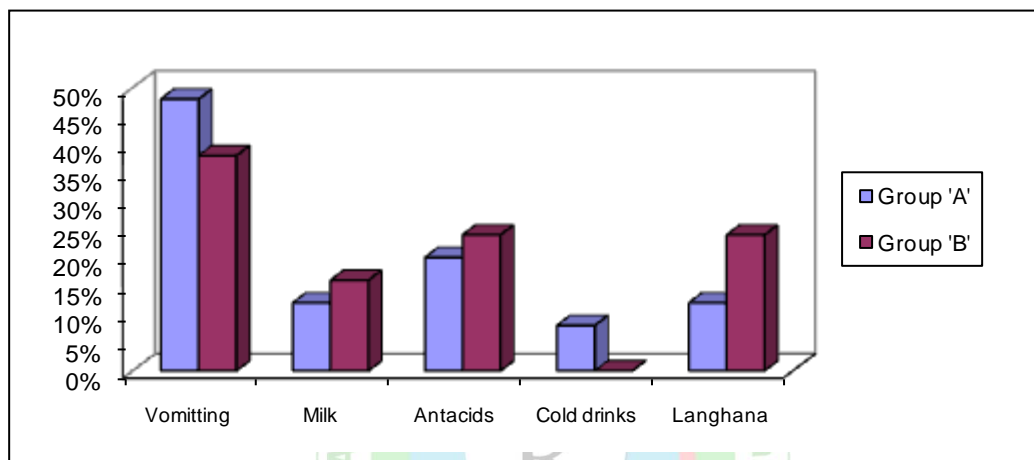
**Figure 4:** Associated symptoms wise distribution of 50 patients of Urdhwaga Amlapitta

**Table 5:** Distribution of 50 patients of Urdhwaga Amlapitta according to Upashaya

Sr. No.	Upahsaya	No. of Patients		Total	%
		Group 'A'	Group 'B'		
1.	Vomiting	12 (48%)	09 (38%)	21	42
2.	Milk	03 (12%)	04 (16%)	07	14
3.	Antacids	05 (20%)	06 (24%)	11	22
4.	Cold drinks	02 (08%)	0 (0%)	02	04
5.	Langhana	03 (12%)	06 (24%)	09	18

In the present study the patients of Urdhwagam Amlapitta reported various dietary articles & other measures which provide temporarily relief. 42% patients reported that

vomiting relieves the pain. 22% patients showed relief by Antacids, 18% patients showed relief by Langhana, 14% patients showed relief by milk & only 4% were reported upsaya by cold drinks.

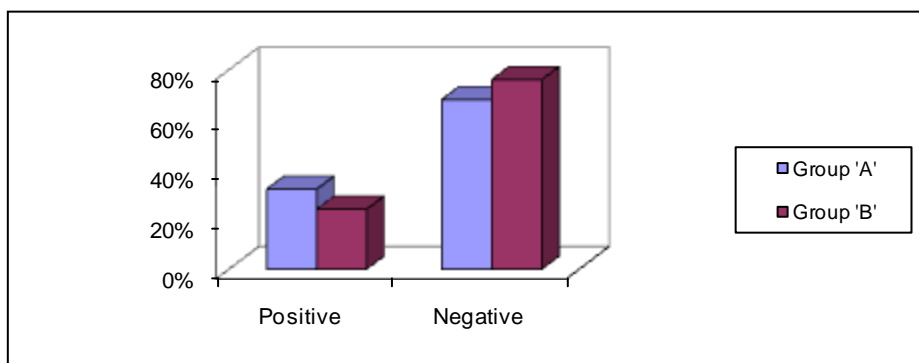


**Figure 5:** Distribution of 50 patients of Urdhwaga Amlapitta according to Upashaya

**Table 6:** Distribution of 50 patients of Urdhwaga Amlapitta according to H. Pylori Antibody Detection Test

Sr. No.	H. Pylori Antibody Detection Test.	No. of Patients		Total	%
		Group 'A'	Group 'B'		
1.	Positive	08 (32%)	06 (24%)	14	28
2.	Negative	17 (68%)	19 (76%)	36	72

Above observation indicates that 72% patient's H. Pylori antibody detection test is negative and only 28% patients are with positive results. This clarifies that there is no association between Urdhwaga Amlapitta & H. Pylori but for final conclusion, the H. Pylori detection must be done with more sensitive method & with more clinical data.

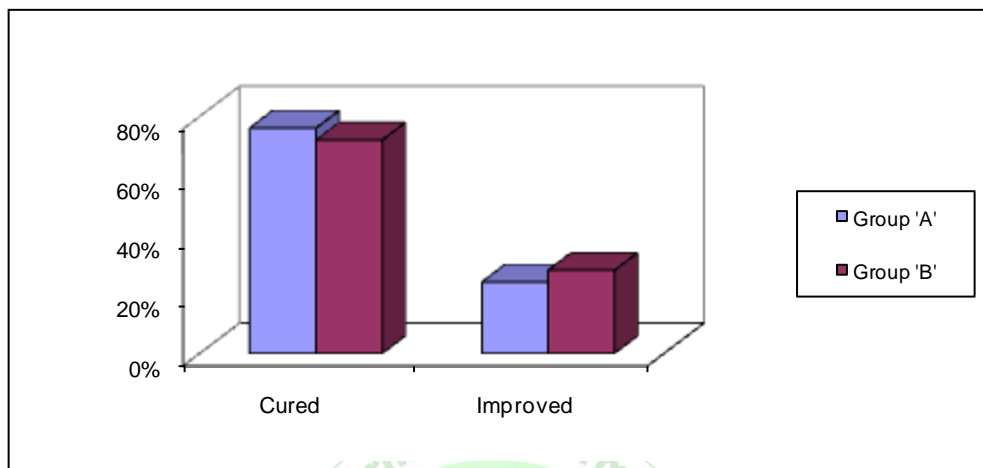


**Figure 6:** Distribution of 50 patients of Urdhwaga Amlapitta according to H. Pylori Antibody Detection Test

**Table 7:** Comparative effect of group 'A' & group 'B' on 50 patients of Urdhwaga Amlapitta

Sr. No.	Result	No. of Patients		Total	%
		Group 'A'	Group 'B'		
1.	Cured	19 (76%)	18 (72%)	37	74
2.	Improved	06 (24%)	07 (28%)	13	26

Above observation indicates that in group 'A' 76% patients are Cured & while in group 'B' 72% patients are Cured & in group 'A' 24% patients are Improved while in group 'B' 28% patients were Improved.



**Figure 7:** Comparative effect of group 'A' & group 'B' on 50 patients of Urdhwaga Amlapitta Statistical Analysis

The data obtained after present clinical study was statistically analyzed. Analysed data is tabulated and discussed as follows:

**Table 8:** Statistical Analysis of effect of the group 'A' on Subjective parameters in UrdhwagaAmlapitta :-

Symptoms	T/T	Mean	S. D.	S. E.	M. D.	S. D.	S. E.	't' value
Avipaka	BT	20.80	2.79	0.554	19.60	4.546	0.909	21.557
	AT	1.20	3.317	0.663				
Utklesha	BT	27.60	4.359	0.872	26.00	5.00	1.00	26.00
	AT	1.60	2.742	0.748				
Tikta-amlodgara	BT	27.60	4.359	0.872	23.60	5.686	1.137	20.752
	AT	4.00	5.00	1.00				
Hrut – KanthaKukshi Daha	BT	28.80	3.317	0.663	26.00	5.00	1.00	26.00
	AT	2.80	4.583	0.663				
Mahati Ushmanubhuti	BT	9.60	10.198	2.040	16.80	5.568	1.114	15.087
	AT	2.40	4.359	0.872				
Agnimandya	BT	17.24	7.019	1.303	16.90	7.123	1.323	12.774
	AT	0.34	1.857	0.345				
Chardi	BT	14.80	5.099	1.020	14.40	5.066	1.03	14.22
	AT	0.40	2.00	0.400				

From the above table it is revealed that group 'A' treatment is highly effective in reducing almost all the symptoms. As  $t_{cal} > t_{tab}$  at 0.01 & 0.001 Level of significance at 24 degree of freedom.

Group 'A' is more effective in reducing the symptom like Utklesha& Hrt-kantha-kukshidaha & Avipaka as compare to other symptoms.



**Table 9:** Statistical Analysis of effect of the group 'B' on Subjective parameters in Urdhwaga Amlapitta

Symptoms	T/T	Mean	S. D.	S. E.	M. D.	S. D.	S. E.	't' value
Avipaka	BT	20.80	4.00	0.800	17.60	4.359	0.872	20.189
	AT	3.20	4.761	0.952				
Utklesha	BT	27.20	4.583	0.917	23.20	4.761	1.00	24.365
	AT	4.00	5.00	1.00				
Tikta-amlodgara	BT	27.60	5.228	1.046	20.80	4.933	0.987	21.083
	AT	6.80	4.761	0.952				
Hrut – KanthaKukshiDaha	BT	29.60	2.00	0.400	23.20	5.568	1.114	20.834
	AT	6.40	4.899	0.980				
MahatiUshmanubhuti	BT	5.60	8.699	1.740	17.60	4.359	0.872	20.189
	AT	0.40	2.00	1.740				
Agnimandya	BT	16.90	7.603	1.413	15.17	6.336	1.177	12.895
	AT	1.72	3.844	0.714				
Chardi	BT	14.80	5.099	1.020	14.40	5.066	1.03	14.22
	AT	0.40	2.00	0.400				

From the above table it is revealed that group 'B' treatment is also highly effective in reducing almost all the symptoms of Subjective parameters as  $t_{cal} > t_{tab}$  at 0.01 & 0.001 Level of significance at 24 degree of freedom.

Group 'B' is more effective in reducing the symptom like Utklesa & Tikta-amlodgara as compare to other symptoms.

**Table 10:** Comparative result of group 'A' & group 'B' on free HCl and Total Acidity level

Acid	T / t	Group	fasting	10 <sup>th</sup>
Free HCl	B. T.	Group 'A'	38.50 ± 8.50	47.80 ± 3.183
		Group 'B'	40.25 ± 7.30	49.96 ± 2.992
		't' value	-1.331, P>0.05	-1.435, P>0.05
	A. T.	Group 'A'	14.67 ± 8.28	19.04 ± 1.26
		Group 'B'	21.33 ± 7.70	19.04 ± 1.26
		't' value	1.43, P>0.05	't' can't cal. as SE.of difference is 0
Total acid	B. T.	Group 'A'	61.33 ± 8.81	57.67 ± 8.22
		Group 'B'	58.67 ± 7.14	58.00 ± 2.74
		't' value	-1.40, P>0.05	-1.14, P>0.05
	A. T.	Group 'A'	14.67 ± 8.28	20.67 ± 1.16
		Group 'B'	21.33 ± 7.70	21.33 ± 9.68
		't' value	1.43, P>0.05	-1.431, P>0.05

Result of group 'A' & group 'B' on free HCl and Total Acidity level indicates that both the groups shows

statistically no significant difference in reducing the Free & Total Acidity level.

**Table 11:** Effect of group 'A' on Serum Cholesterol & Serum Triglycerides

	T/t	Mean	SD	SE	MD	SD	SE	t'
L cholesterol	B. T.	168.08	19.621	3.924	0	4.252	0.850	0
	A. T.	168.08	18.237	3.647				
S. Triglycerides	B. T.	107.84	21.704	4.341	-0.8	4.627	0.925	-0.86
	A. T.	107.92	19.881	3.976				

Above table shows that their is statistically no effect on Serum Cholesterol & Serum Triglycerids of before & after treatment as statistically there is no significant difference at  $P > 0.05$ .

**Table 12:** Effect of group 'A' & group 'B' on H. Pylori

Group	T/t	Mean	SD	SE	MD	SD	SE	t'
Group 'A'	B. T.	0.32	0.476	0.095	0.24	0.436	0.087	2.753
	A. T.	0.08	0.276	0.055				
Group 'B'	B. T.	0.24	0.436	0.87	0.16	0.374	0.075	2.138
	A. T.	0.08	0.277	0.055				

Above table shows that group 'A' is effective in eradication of H. Pylori ( $t'=2.753$   $P.< 0.02$ ) and group 'B' is effective in eradication of H. Pylori ( $t'=2.138$   $P.< 0.05$ ).

**Table 13:** Effect of group 'A' & group 'B' on presence of bacteria in stool

Group	T/t	Mean	SD	SE	MD	SD	SE	t'
Group 'A'	B. T.	0.72	0.458	0.72	0.720	0.458	0.092	7.856
	A. T.	0.00	0.00	0.00				
Group 'B'	B. T.	0.56	0.00	0.101	0.480	0.510	0.102	4.707
	A. T.	0.00	0.00	0.00				

Above table shows that group 'A' is highly effective on eradication of bacteria in stool ( $t' = 7.856$   $P.< 0.001$ ) and group 'B' is also highly effective on eradication of bacteria ( $t'=2.138$   $P.< 0.05$ ).

**Table 14:** Statistical Analysis of effect of the group 'A' on associated symptoms of Urdhwaga Amlapitta :-

Symptoms	T/T	Mean	S. D.	S. E.	M. D.	S. D.	S. E.	t' value
Udarshula	BT	19.60	6.758	1.352	18.80	6.00	1.2	15.667
	AT	1.20	3.317	0.663				
Shirsula	BT	19.60	8.888	1.77	18.80	8.317	1.665	11.289
	AT	0.80	2.76	0.554				
Aruchi	BT	10.40	7.985	1.579	09.60	6.758	1.352	7.103
	AT	0.80	2.769	0.554				
Karcharanadaha	BT	12.40	9.69	1.93	11.60	9.43	1.88	6.14
	AT	0.80	2.76	0.55				
Kaphapittajawara	BT	9.60	10.198	2.040	7.20	8.42	1.68	4.27
	AT	2.40	4.359	0.872				
Twakpidika	BT	6.40	8.103	1.621	06.00	7.63	1.52	3.92
	AT	0.40	2.00	0.400				

Above table shows that group 'A' is highly effective in reduction of all the associated the symptoms of Urdhwaga Amlapitta and result is significant at  $P.< 0.001$ .

**Table 15:** Statistical Analysis of effect of the group ‘B’ on Associated Symptoms of Urdwaga Amlapitta

Symptoms	T/T	Mean	S. D.	S. E.	M. D.	S. D.	S. E.	't' value
Udarshula	BT	16.80	1.497	7.483	16.40	7.572	1.514	10.830
	AT	0.40	0.40	2.00				
Shirsula	BT	22.00	9.12	1.82	18.40	9.434	1.887	9.752
	AT	3.60	4.899	0.980				
Aruchi	BT	15.20	8.226	1.645	11.20	7.257	1.451	7.716
	AT	4.00	5.00	1.00				
Karcharanadaha	BT	12.40	11.64	2.33	10.00	10.00	2.00	5.00
	AT	2.40	4.35	0.872				
Kaphapittajwara	BT	5.60	8.69	1.740	5.20	8.226	1.645	3.161
	AT	0.40	2.00	0.40				
Twakpidika	BT	6.00	8.16	1.63	04.80	6.532	1.306	3.674
	AT	1.20	3.31	0.66				

Above table shows that in associated symptom like Udarshula, Shirsula, Aruchi, Karcharandaha group 'B' is highly effective and result is significant P. < 0.001 & in symptom like Kapha-pittaja-jwara & Twakapidika treatment is effective and significant at P. < 0.01.

From above two table of we can say that group 'A' is comparatively more effective in reducing the associated symptoms of Urdhwaga Amlapitta than Group 'B'.

**Table 16:** Comparative result of group 'A' & group 'B' in Urdhwaga Amalapitta

Sr. No.	Group	Number of Patients		Total
		Cured	Improved	
1	Group 'A'	19	06	25
2	Group 'A'	18	07	25
	<b>Total</b>	<b>37</b>	<b>13</b>	<b>50</b>

Let us presume that group ‘A’ & group 'B' are equally effective.

By applying Chi-Square test on this hypothesis we get following results.

$$\chi^2 = \frac{(ad - bc)^2 N}{(a + b)(c + d)(a + c)(b + d)}$$

$$= \frac{(19 \times 7 - 18 \times 6)^2 50}{37 \times 13 \times 25 \times 25}$$

$$= 0.103$$

**Degree of freedom or V**

$$= (c-1) (r-1)$$

$$= (2-1) (2-1)$$

$$= 1 \times 1$$

$$= 1$$

Table value of Chi-square for 3 degree of freedom at 5% level of significant is 3.84 which is more than calculate

value of Chi-square. Therefore we accept the nul hypothesis. Thus our presumption is proved to be correct.

So it may be said that both the treatments are equally effective in Urdhwaga Amlapitta.

### Probable Mode of Research Drug in Urdhwaga Amlapitta.

**Table 17:** Probable mode of Shatavari Ghrta is tried to be described in brief as follows:

Samprapti Ghataka	By property	Action
<b>Dosa-</b> I) Pachaka Pitta	Shitavirya	Ushna, tiksna, laghu, sar, gunas of pitta
ii) Sadhak pitta	Oja&Medhavardhaka property of Godugdha&Goghruta.	i) Ushna, tiksna, Laghuguna of sadhak pitta ii) Snehaguna of sadhak pitta. iii) Rajo&Tamodosa of mana Satwaguna of mana So function of sadhaka pitta get corrected.
iii) Samanvayu	Vatpittagna	Ruksa, Laghu, Cala, Guna of samanvayu
Udanavayu	Vatpittagna	Laghu, Cala, Guna of Udanavayu.
Apanavayu	--  --	Ruksa, Laghu, Cala, Guna of Apanvayu
<b>Dhatu :-</b> i) Rasa RaktaMamsa	Balya, Rasayana	Corrects the dhatuvaisymaya
ii) Mamsa	Snigdha, pichilmrduguna, sitvirya	Produces a protective layer on gastric mucosa, gastric irritation & heals the ulcer.
<b>Agni-Jathragni</b>	Dipanaprabhava of goghrta	Jatharagnivardhana
<b>Mala – Purusa</b>	Snigdthaguna	Help in soft defecation

Shatavari Ghruta is given orally which is the safest, most convenient and economical method of drug administration. The oral administration allows the drug to affect, influence & modifies the Agni and the Dohsas in the GI tract.

It was given two times a day and on a empty stomach so that the drug can be easily digested and absorbed, and exert its utmost action.

Due to Madhura rasa it is digested to a great extent in Amashaya where dipana, pachana prabhava of it helps to improve the pachakagni. During digestion the proto elemental composition of the drug is first broken down and then synthesized as per the preponderance and specific affinity of proto elemental. After such transformation they are absorbed in general circulation and systems where the bhautik agnis act upto them, then they transported to dhatus or to the site of action i.e. Amashaya where the dhatwagnis act upon them. As Shatavari Ghruta is Rasayana (Reguvenator), Balya, Agnibalvardhaka (Enhance Digestive Power), Medhya, Vrasya (Aphrodisiac) its acts on whole body and thus it not only cures the diseases but also help the patient to restore the health.

### Modern View:-

Shatavari, the ingredients of Shatavari Ghruta though proved valuable drug for Amlapitta and Parinam Shula but does not exhibit any trace of Antacid activity.<sup>(9)</sup> Chemical testing of the Shatavari Ghruta show that it has highest Acid Neutralizing Capacity as compare to Sutashekhara Rasa and Kamdudha Rasa i.e. 63.6 with SD (0.05) and also having highest buffering capacity i. e. 110 min. Rossett – Rice test of this drug also shows that it neutralizes PH. to 2.75 up to 110 min. and as we know in Amlapitta there is excessive secretion of gastric acid. It neutralize it gastric acid. Besides antacid property it probably enhances the mucosal barrier, by prolonging the life span of mucosal cells or by cyto protection and as throughout the treatment, patient did not showed any symptom of alkylosis or any other complications. It reduces the HCl level but do not cause Hypo or Achlorhydria even after their prolonged use so this proved that it is the best drug in Urdhwaga Amlapitta.

Considering all given points, we can conclude that this drug act on Urdhwaga Amlapitta by performing the following functions.

- 1) Doshasamya
- 2) Dushyasamya
- 3) Agni vardhana
- 4) Correction of Sthanavaigunya
- 5) Nutralizing the Gastric acid.

**Probable mode of action of Sutsekhara Rasa:-****Table 18:** According to Ayurvedic view:-

SampratiGhataka	By Property	Ingredients	Action
<b>Dosa</b> –Pachak pitta, Kledaka Kapha.	i)UshnaVirya with Laghu & Ruksa Guna ii) GrahiGuna	Twak, dhatura.vatsnabha, bhrungaraj swarasa.	Drava Shosana
Pachak Pitta	Madhura, Tikta, Kasaya Rasa	Kacora, Naga kesara, Twaka, Tankana, Gandhaka, Sankh bhasma	Ushna, Tikshna, Sara, Amla & Dravaguna of Pachak Pitta
Kledaka Kapha	Katu Rasa.	Tankan, trikatu, trijat, dhatur, gandhak, kachora.	Alleviation
Samana, Udana, Vyanavayu & Pachak Pitta.	i) UshnaVirya ii) Shula Prashamaniya	Tankan,vatsnabha,shunthi,maricha,dhatturabeej,gandhak,tamrabhasma,twak,tamalpatra,nagkeshar,bilwa majja, kachora, bhrungrajswarasa.	Shitaguna Laghu, ChalaGuna of SamanaUdana, Vyanavayu, Tikshna, Ushna, Guna of Pachak Pitta.
<b>Dhatu</b> – i) Rasa , Rakta, Mamsa	UshnaVirya	Tankan,vatsnabha,shunthi,maricha,dhatturabeej,gandhak,tamrabhasma,twak,tamalpatra,nagkeshar,bilwa majja, kachora, bhrungrajswarasa.	Dhatwagnidipana, Correct the Dhatu vaishamyia.
ii) Rasa Rakta, Mamsa.	i) Balya ii) Rasayana	Parada, Gandhaka, Bhrangaraja, Tankana, Swarnamaksika & Sankhabhasma Parada, Gandhaka, Bhrangaraja, Swarnamaksika	Correct the dhatuvaishamyia Correct the dhatuvaishamyia
iii) Rakta	Kandughna&Visaghna	Parada, Gandhaka, Swarnamaksika & Sankhabhasma Bhrangaraja, Dhatura Bija.	Dut to Rakta Sodhaka property, correct the dhatuvaishamyia.
iv) Mamsa	i) Anticholenergetic drug ii) Ulcer healing property	DhaturaBija Dhatura, Tankana, Parada.	Gastric secretion Healing
<b>Strotasa-</b> Annavaaha	Balya & Rasayana	Parada, Gandhaka, Bhrangaraja, Tankana, Swarnamaksika & SankhaBhasma	Corrects the stroto vaigunya & strengthens the Srotasa
<b>Agni-</b> Jatharagni	Dipaniya Pachhaniya	Sunthi, Vatsanabha, Pimpli. Sunthi, Gandhaka, Pippali.	Agni vardhana Amapacana & arrest further Amotpatti.
<b>Mala-</b> Purisa	Vata anulomana	Pippali, Sunthi ,Maricha, Twaka, Tamal Patra, Tamra bhasma.	Help in soft defecation

All ingredients of[ Sutshekhara Rasa balance the each other's drawback and enhances the properties of each other for ex. Vatsanabha being a toxic drug may contain some toxic substances if some toxicity remains even after shuddhikaran prakriya Tankana being a antidote of Vatsanabha reduces the toxic effect of drug. Gandhaka increases the potency of Parada & Tamrabhasma.

So considering all above points we came to conclusion that the Sutshekhara breaks the aetio-pathological events of Urdhwaga Amlapitta and so Sutshekhara can be used at

any stage of pathogenesis of Urdhwaga Amlapitta as it act on each and every stage of pathogenesis and also vitiate almost all the symptoms of Urdhwaga Amlapitta.

**According to modern view:-**

We know that, in Urdhwaga Amlapitta gastric secretions are increased.

Sutsekhara, is a sulphur mercurial preparation and so inert, in nature. Even though in the state of fine sub division it get absorbed through the mucus membrane of



stomach and intestine while getting absorbed, the drug affect the secretions of gastric juice, HCl & the stomach and glandular structure lining the intestines. These modified secretions effect direct as well as indirect influence upon the metabolism of the person by regulating the activities of the liver, kidney and several other organs of the body.

This drug contains the finely subdivided preparation of Mercury & sulphur i.e. kajjali which modify or inhibit the

**Probable mode of action of Kamdudha Rasa:-**

growth of harmful intestinal flora and also help in the growth & multiplication of the intestinal flora (saprophytes) which are useful for the body. It has been clinically observed that this mercurial preparation, even if used for considerably long time, do not produce any toxic effects like salivation and foul breath.<sup>10</sup>

Sutsekhara is also having average Acid neutralizing capacity 28.6 with SD. 0.05 thus neutralized the excessive gastric acid.

**Table 19: According to Ayurvedic View**

SampratiGhataka	By Property	Ingredients	Action
Dosa – Pacaka pitta, Kledaka Kapha. Samana Udara & Vyanavayu.	i) Ridosaghna & Kaphavatghna ii) Madhur, Tikta, Kasaya Katu Rasa.	Praval, muktashukti, varatikabhasma, shankhabhasma, gairik, guduchi	Alleviation
Pacaka Pitta & Kledaka Kapha	Grahi Guna	Sankha & Swarna-gairikabhasma	Drava shosana
SamanaUdana & Vyanavayu.	Shulaprasamaniya	Muktasuktibhasma	Laghu, ChalaGuna
<b>Dhatu</b> – i) Rasa	Jwaraghna Property	Guduci, Swarnagairika & Pravalbhasma.	Rasadhatwagnidipna, Correct the Rakta dhatu hai samya
ii) Rakta	Kandughna & kusthaghna	Guduci, Swarnagairika Bhasma	Correct the Rakta dhatu vaishamya
<b>Mamsa</b>	Ulcer healing property	Swarnagairika Bhasma.	Healing
<b>Strotasa</b> - Annavaaha	Rasayana & Balya	Guduci Praval Sankha	Corrects the strotovaigunya & Strengthens the Strotasa
<b>Agni</b> -Jatharagni	Dipaniya	Praval, muktashukti, varatika bhasma, shankha bhasma, gairik, guduchi	Agni vardhana
	Pachaniya	Guduci Praval Shankha bhasma	Amapachana & arrest further Amotpatti.
<b>Maia</b> -Purisa	Rechaka & Anulomaka	Guduchi	Help in soft defecation

**According to Modern View:-**

The ingredients of Kamdudha Rasa such as Pravala bhasma has Antacid potency 242.60 mEq/10gr.  $\pm$  5.23, Varatika bhasma has 221.90 mEq/10gr  $\pm$  5.90, Sukti bhasma has 207.24 mEq/10gr  $\pm$  1.93 Antacid potency.<sup>11</sup> Kamdudha Rasa of present study is having average Acid Nutrralizing Capacity 42.00 + 0.05 SD and as we know, in Urdhwaga Amlapitta their is increased gastric secretion so Kamdudha ingredients having antacid activity neutralize the gastric acid.

Probable mode of action of Sutsekhara Rasa and Kamdudha Rasa on Urdhwaga Amlapitta These drugs acts

on Urdhwaga Amlapitta by performing the following functions.

1. Dosasamya
2. Dusyasamya
3. Agni vardhana
4. Ampacana
5. Dravatasosana

This gives the total probable mode of action of Sutsekhara Rasa and Kamdudha Rasa on Urdhwaga Amlapitta. Going through all the observations we can say that this drug has property of Samprativighatana of Urdhwaga Amlapitta & are highly effective in Urdhwaga Amlapitta.



**CONCLUSION**

1. Occurrence of Urdhwaga Amlapitta is more than Adhoga Amlapitta.
2. The main a etiological factor of Urdhwaga Amlapitta is related mainly with dietetic habits (50%) followed by Psychological factors (42%).
3. The incidence of this disease is more in the age group 21 to 30 (46%) followed by 31 to 40 age group (18%).
4. Maximum incidence of Urdhwaga Amlapitta is observed in female i.e. 70 %.
5. Urdhwaga Amlapitta has no relation with Marital status.
6. Maximum patients of Urdhwaga Amlapitta belongs to Hindu Religion i.e. 98%.
7. Incidence of Urdhwaga Amlapitta is more in Sadharanadesha (98%).
8. Highest incidence of Urdhwaga Amlapitta is observed in highly educated people (68%).
9. The occurrence of Urdhwaga Amlapitta is highest in middle income group (58%) followed by lower income group (24%)
10. Maximum incidence of the disease is in students (44%) followed by Housewives 24 %.
11. Incidence of Urdhwaga Amlapitta is more in Urban area (82%).
12. Maximum patients of Urdhwaga Amlapitta having chronicity of 1-3 Yrs. (40%) followed by more than 3 Yrs. chronicity (30%).
13. Highest occurrence of Urdhwaga Amlapitta is in Sharada Rutu (64%) followed by Varsha (12%) & Hemanata Rutu (12 %).
14. People having addiction of tea-coffee, are more prone to Urdhwaga Amlapitta (70%) followed by addiction of tobacco & tea-coffee (28%)
15. Highest incidence of Urdhwaga Amlapitta is in patients with Emotional upset 40% followed by Worms's infestation (20%) & Joint disorders (20%).
16. Maximum No. of patient took allopathic treatment for Urdhwaga Amlapitta (42%) followed by Ayurvedic& Allopathic treatment (24%).
17. Maxi. Incidence of the disease is in Pitta-kaphaja Prakruti (35%) followed by Khapha Pittaja Prakruti (26%)
18. Maximum incidence of the disease is in patients with Rajasika Manas prukrti (50%) followed by Tamsik Prakriti (46%).
19. Incidence of Urdhwaga Amlapitta is more in patients with HinaAbhyavarnashakti (50%) followed by Madhyama Abhyavarnashakti (40%).
20. More incidence of the Urdhwaga Amlapitta is observed in patient with Madhyama Jaranshakti (60%) followed by patients with Hina Jaranshakti (40%).
21. Maximum incidence of Urdhwaga Amlapitta is observed in patient taking mixed diet (70%).
22. Highest incidence of Urdhwaga Amlapitta is in patients with mental tension (30%) followed by patients with Anxiety (26%).
23. Incidence of Urdhwaga Amlapitta is more in patients with Madhyam Koshttha (56%) followed by patients with Mrdu Kostha (40%).
24. AvaraSatva people prone to Urdhwaga Amlapitta (64%) more than the Madhyama Satva (42%) and Pravara Satva (4%).
25. Maximum incidence of Urdhwaga Amlapitta is in patients having disturbed sleep (66%).
26. Highest incidence of Urdhwaga Amlapitta is in patients having one hour's day time sleep.(48%)
27. Maximum incidence of Urdhwaga Amlapitta observed in patients taking night sleep less than 6 hours (38%) followed by patients sleep more than 6 hours (34%).
28. More incidence of Urdhwaga Amlapitta is observed in patients with irregular mode of defecation (54%).
29. Highest incidence of Urdhwaga Amlapitta is observed in patient with 'B' positive blood group (52%) followed by 'O' positive blood group (36%). No patient is found with 'A' positive blood group.
30. Highest incidence of Urdhwaga Amlapitta is in patients taking Vdhahiahara (86%) followed by Amlaahara. (74%) & Adhyasana (70%).
31. Associated symptomwise distribution of patient's shows that 88% patients are having Sirsula 86% patients are having Udarsula and 80% are having Aruci as associated symptoms.
32. Highest No. of patients (42%) shows Upasaya after chardi followed by Langhana (18%) & Antacids (18%).
33. More incidence of Urdhwaga Amlapitta is in H. Pylori negative patients.
34. There is no association between H. Pylori and Urdhwaga Amlapitta, but to draw final conclusion it needs further clinical study in more number of cases.
35. The Bacteria present in the stool eliminate after treatment by both the groups.
36. There is statistically no significant difference in Serum Cholesterol and Serum Triglycerides before & after treatment in Group 'A' patients.
37. Both the group are effective in eradication of H. Pylori but to draw final conclusion it needs further clinical study in more number of cases.
38. Group 'A' is more effective in relieving the associated symptom.
39. Both the groups are highly effective in relieving all the symptoms included in subjective criteria and results are highly significant.
40. Both the groups are highly effective in reduction of increased Gastric acid level & results are highly significant.
41. Finally it can be concluded from the present Clinical Study that Urdhwaga Amlapitta can be managed

effectively with Shatavari Ghruta as well as Sutsekharā & Kamdudha Rasa. Both groups have shown individually highly significant results. The superiority

of either of drugs in their efficacy cannot be elicited, as they have proved non significant difference statistically.

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