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## Study of Diet and Regimen in the Pathogenesis of Hridroga (Heart Diseases) in Ayurveda

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### ABSTRACT

**Purpose:** Hridroga is the disease of marma (vital organ), which is the seat of many vital activities. Hridroga is among those diseases mentioned in ayurveda where in the descriptions is quite brief and ayurvedic viewpoint needs clarification. Keeping in view of the increasing evidence of cardiac disorders in the present times, the study was conducted with following objective: To know role of diet and regimen in pathogenesis of hridroga. **Methods:** 224 patients from Indoor Patient Department and Out Patient Department of roga nidan dept, govt. Ayurvedic College, Guwahati; on the basis of inclusion criteria were randomly selected for the study. **Inclusion criteria:** 1. Patient showing atleast 4 samanya lakshanas of hridroga were included under the study, irrespective of their age or gender. **Assessment criteria:** 1. Patients having hridroga, were first diagnosed on the basis of samanya lakshana of hridroga and registered. 2. The full details of screening, history of physical examination of patients were recorded in specially designed format to study diet and regimen in pathogenesis of their disease and to categorise it under different types of Hridroga according to Ayurveda classics. **Results:** The study showed a range of  $46.14 \pm 17.2$  (mean  $\pm$  SD) years old patients' inclusion. The study showed that the 40 – 60 years of age group (40.2%) comprises of highest number of patients. The study showed majority of hridroga are vataja hridroga (29.9%). Virrudhasan, adhyasan and visamasan, each of these dietary habits were seen in more than 50% of the patients. Excessive consumption of Fish was seen in 89.7% cases of krimija hridroga, 100% cases of kaphaja hridroga and 93% pittaja hridroga. **Conclusion:** From the study following conclusions are drawn: 1. most prevelant hridroga is vataja hridroga. 2. Hridroga is a disease predominant in productive age of life; i.e. 20-60 years of age. 3. Major dietary faults causing hriroga are: Consumption of junk food, calorie rich dense food, meat, fish etc. very often, Excessive indulgence in gutkha, panmasala, alcohol etc. and Taking food in larger quantities, in wrong timing and in wrong combination.

**Keywords:** hridroga, diet and regimen, visamasana

### INTRODUCTION

Non Communicable Diseases are directly linked to the food and the regimen; i.e., lifestyle. Commonest NCDs in India that has an impact of faulty lifestyle are obesity, mental illnesses, cancer, heart diseases, respiratory diseases, hormonal disorders and food allergies [1].

The human heart is responsible for providing tissues with vital nutrients, and facilitating waste excretion. Consequently, cardiac dysfunction causes devastating physiologic consequences. Disruption of any element of the heart – myocardium, valves, conduction system, and coronary vasculature, can adversely affect pumping efficiency thus leading to morbidity and mortality [2]. Cardiovascular diseases (including coronary artery diseases) is number one cause of worldwide mortality, with about 80% of the burden occurring in developing countries [1].

### Risk Factors

Inappropriate nutrition, insufficient physical activity, increased tobacco consumption, overweight, central obesity, high blood pressure, dyslipidaemia, diabetes and compromised cardio respiratory health are among the major etiological factors contributing to the increased risk [3].

### Nutritional factors in cardiovascular diseases

As per WHO; dietary habit, lipid profile and coronary heart diseases are strongly interrelated to each other [4]. The nutritional factors which play a role in causation of cardiovascular diseases are:

Cholesterol  
Lipoproteins

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Fatty acids  
Triglyceride  
Carbohydrate  
Dietary Salt

- ii) Causes affecting the basic elements important for maintaining physiological function of heart as mentioned in the previous chapter (hridaya).
- iii) Heart disease as a complication of other disease (hridaya).

According to aetiological factors and clinical manifestations, heart diseases are classified as [5].

- Vataja
- Pittaja
- Kaphaja
- Tridoshaja (susruta has considered krimija and sannipaittika to be same) [6].
- Krimija

### Aetiopathogenesis of Heart Disease

The various causes of heart disease can be classified into:

- i) Causes directly acting on heart (hridaya).

Various factors directly acting on hridaya can be classified into: [5, 7, 8].

- Psychological factors
- Dietetic factors
- Physical activity
- Excessive indulgence in sexual activities
- Suppression of natural urges
- Alcoholism
- Bacteria, viruses, parasite, worms and their toxins
- Iatrogenic
- Toxic effect of drugs
- Improper managements of diseases
- Abnormal or excessive use of emetics, purgatives or enemas.
- Trauma to heart (hridaya)
- Complications of other diseases

### General etiological factors:

Charak [7].	Susruta <sup>5</sup>	Vagbhata [9].
Ati-vyayam	Vega- dharan	Person emanciated because of jwar, chhardi, atisara or excessive use of vaman etc therapy consumes vatakarak ahar and practices vata karak vihar.
Tikshna-ahar ati sevan	Ushna-anna ati sevan	Person emanciated (karshito) because of excessive hunger or mal nutrition (bubhukshito) when consumes shita ambu.
Ati-vireka	Ruksha anna ati sevan	Person who immediately after consuming a meal indulges in physical activities excessively.
Ati-basti	Viruddhasan	Person who forcefully vomits.
Cinta	Ajirna	Sandharan
Bhaya	Asatmaya bhojan	Undergoes shodhan therapies without proper snehan and swedan
Trasa	Adhyasan	After proper sanshodhan karma donot follow samsarjan krama and indulges in bidahi and abhisyanidi ahar.
Gada-atichara	Ati-prasange	
Chhardyam		
Aama		
Sandharan		
Karshanani		
Abhighata		

### Specific aetiological factors as per charaka:

Dosha	Vishishta Nidan
Vata-janya: [10].	Shoka (grief), upavasa (anorexia), vyayam (excessive physical exertion), ruksha-sushka-alpa-bhojan (dry, devoid of any oil and very little amount of food consumption).
Pitta-janya: [11].	Ushna-amla-lavan-kshara-katu-ajirna-bhojane (excessive and improper intake of hot in temperature, sour, salty, alkaline and hot food and consumption of food when suffering from indigestion), madya (alcoholism), krodha (excessive anger), atapa (excessive exposure to sun, hot environment).
Kapha-janya: [12].	Atyadana (excessive intake of food), guru-snigdham (excessive intake of heavy, calorie rich and oily food), achintam (unstressful living), achestanam (lack of physical activity, sedentary life style), nidra-sukham –adhikam (excessive sleep)
Tri-dosha janya: [13].	All the nidanas of tri-dosajanaya hrid-roga.
Krimi-janya [14].	When a person is suffering from tri-dosha janya hrid-roga but continues to consume sesame, jaggary, milk products etc., swelling (granthi) occurs in parts of hridaya.

Aetiological factors affecting various dushtas and doshas of hridaya:

Rasa, rakta, mamsa, oja, pranavayu, vyana vayu, shadhaka pitta and avalambaka kapha are the eight basic elements which maintains the integrity of the cellular structure and various functions of heart. Various factors which affect these basic elements can lead to heart disease. [15].

Hriroga as upadrava of other diseases:

- Pandu [16].
- Sannipataja jwara [17].
- Vatarakta [18].
- Vataja prameha [19].
- Chhardi [20].
- Raktapitta [21].
- Pana-ajirna [22].
- Dhatu-visha [23].
- Abhyantara Krimiroga [24].
- Avrita vata [25].
- Vatik grahani [26].
- Krimija chhardi [27].
- Sarvanga vata [28].

**Effect of Rasa on Hridaya** [29].

	In Normal Quantity	In Excess Quantity	In Sufficient Quantity
MADHUR	Provide nourishment to the heart, strengthen structure and function of the heart	Diabetic cardiomyopathies, atherosclerotic changes, flabby heart	Cachexic heart, pain in heart
AMLA	Acts as heart tonic	Burning sensation in cardiac region	Weak action of the heart
LAVAN	Maintains normal heart function	Weak heart, palpitation, high blood pressure	Impaired action of heart
KATU	Cleansing action over heart and its channels	Burning sensation in heart	
TIKTA	Maintains proper regulation of conduction system	Weaken tissues of heart	
KASHAYA*		Pain in cardiac region, constrict coronary arteries, vertigo	

#### Kshara:

Kshara\* is not considered one among the “sadrasa”. It is a compound rasa made of two anu rasa: lavan ras and katu ras, it need to be extracted by a proper procedure unlike other rasa and can be perceived only in the liquid derived from aquas extract of ashes. Hence, it is considered to be a dravya by Acharya Charak [30]. But as consumption of alkali based food items is practiced extensively in Assamese culture, it is considered just for the sake of hypothesis that may pose as an important etiological factor due to its properties of disintegrating tissues and other metabolites [31]. and it was kept along with other rasa in case history proforma.

**Aim:** To know role of diet and regimen in pathogenesis of hridroga.

## MATERIALS AND METHODS

### Research design

#### Study Population

Patients were registered from OPD and IPD of Roga Nidan Department, Govt. Ayurvedic College, Jalukbari, Assam.

#### Sampling Technique

Patients attending OPD and IPD of Govt. Ayurvedic College, Jalukbari, Assam were selected according to the selection criteria. Simple random sampling technique was used.

#### Study Sample:

Patients from OPD and IPD of Roga Nidan Department, Govt. Ayurvedic College, Jalukbari, Assam; having clinical manifestation of at least four samanya lakshanas of hridroga were included.

#### Sample Size

224 no. of patients were registered for the study.

#### Study Design

Observational study of role of diet and regimen in hridroga mentioned in Ayurveda, in terms of symptomology was done.

#### Inclusion Criteria:

Patients irrespective of any age and sex, exhibiting the atleast foursamanya lakshana of hridroga mentioned in Ayurveda were included.

#### Exclusion Criteria:

Patients having less than four samanya lakshana of hridroga were excluded from the study.

#### Statistical Analysis

Data for 224 patients were collected for subjective and objective parameters and were assessed as per modern statistical method.

#### Ethical Consideration:

Ethical clearance was obtained from institutional ethical committee of Govt Ayurvedic College, Guwahati-14, Assam.

#### Duration of Study:

2 years. (from may 2016 to april 2018).

#### Resources Utilized for the Study

- The patient were selected from, OPD and IPD of Govt. Ayurvedic College and Hospital, Guwahati.
- Central library. Govt. Ayurvedic College and Hospital, Guwahati.
- Other reliable sources of investigations as per requirement..
- Relevant data from articles, periodical journals etc.
- Various media like internet etc.

**Routine Examination and Assessment Criteria**

a. Patients having hridroga, were first diagnosed on the basis of samanya lakshana of hridroga and registered.

b. The full details of screening, history of physical examination of patients were recorded in specially designed format to study diet and regimen in pathogenesis of their disease and to categorise it under different types of Hridroga according to Ayurveda classics.

**RESULTS**

**R.1: distribution of patients of hridroga as per age group and relation between types of hridroga and age group**

Age	Number Of Patient		Vataja		Pittaja		Kaphaja		Krimija		Sannipataja	
	N	%	N	%	N	%	N	%	N	%	N	%
0-5 YEARS	01	0.4			1	2.3						
5-14 YEARS	02	0.9							2	6.9		
14-24 YEARS	17	7.6	3	4.48	4	9.3	7	14.9	2	6.9	1	2.6
24-40 YEARS	57	25.4	3	4.48	16	38.9	22	46.8	14	48.3	2	5.3
40-60 YEARS	90	40.2	38	56.7	17	39.5	16	34	10	34.5	9	23.7
>60 YEARS	57	25.4	23	34.3	5	11.6	2	4.3	1	3.5	26	68.4
TOTAL	224	100	67	100	43	100	47	100	29	100	38	100

The study showed a range of 46.14 ± 17.2 years old patients' inclusion. The study showed that the 40-60 years age group (40.2%) comprised of highest no. of patients.

The study showed that hridroga was slightly more prevalent in female patient (54.9%) than that of their male counterparts (45%). 53.7% cases of vataja hridroga, 53% cases of pittaja hridroga, 55.1% cases of krimija hridroga were found in male patients. 85.1% cases of kaphaja hridroga were found in female patients. However prevalence of sannipataja hridroga in both the genders was found to be equal.

**R.2: Distribution of patients of hridroga as per gender and relation between types of hridroga and gender**

**R.3: Distribution of patients of hridroga as per occupation and relation between types of hridroga and occupation**

Occupation	Number Of Patient		Vataja		Pittaja		Kaphaja		Krimija		Sannipataja	
	N	%	N	%	N	%	N	%	N	%	N	%
SERVICE	56	25	18	26.9	13	30.2	8	17	2	6.9	15	39.5
HOUSEWIFE	91	40.6	21	31.3	22	51.2	25	53.2	9	31	15	39.5
LABOURER	17	7.6	6	9	1	2.3			9	31		
BUSINESS MAN	13	5.8	2	3	1	2.3	7	4.9	1	3.4	2	5.3
STUDENT	09	4			3	7	1	2.1	4	13.8	1	2.6
FARMER	38	17	20	29.9	3	7	6	12.8	4	13.8	5	13.2
TOTAL	224	100	67	100	43	100	47	100	29	100	38	100

**R.4: distribution of hridroga as per their types**

The study showed majority of hridroga were vataja hridroga (29.9%)

followed by sleishmik hridroga (21%), paittik hridroga (19.2%), sannipataja hridroga (17%) and krimijahridroga (12.9%).

**R.5: Distribution of hridroga as per number of samanya lakshana and relation between types of hridroga and number of samanya lakshana seen in hridroga patients**

No. of Lakshanas	No. of Patients		Vata		Pitta		Kapha		Krimija		Sannipataja	
	N	%	N	%	N	%	N	%	N	%	N	%
4-6 LAKSHANAS	114	50.9	30	44.8	38	88.4	42	89.4	04	13.8		
7-10 LAKSHANAS	99	44.2	35	52.2	05	11.6	05	10.6	22	75.9	32	84.2
>10 LAKSHANAS	11	4.9	02	3					03	10.3	06	15.8
TOTAL	224	100	67	100	43	100	47	100	29	100	38	100

More than half of the total no. of patient (50.9%) was having four to six number of samanya lakshana of hridroga in them. 44.2% patients were showing seven to ten samanya lakshana of hridroga. Only 4.9% of patients were showing more than ten number of hridroga samanya

lakshana.

Highest percentage of pittaja hridroga (88.4%) and kaphaja hridroga(89.4%) patients showed 4-6 numbers of samanya lakshana.

**R.6: Distribution of hridroga as per chronicity**

Chronicity	Number Of Patient	
	N	%
FEW HRS - < 1 WEEK(A)	03	1.3
1 WEEK - < 2 MONTHS(C1)	25	11.2
2 MONTHS- <1 YEAR(C2)	86	38.4
> 1 YEAR(C3)	110	49.1
TOTAL	224	100

There were 49.1% cases showing C<sub>3</sub> chronicity. However the acute ailment showed a very small no. of cases (1.3%).

**R.7: Distribution of hridroga as per samanya lakshana and relation between types of hridroga and samanya lakshana**

Lakshana	No. Of Patients		Vataja		Pittaja		Kaphaja		Krimija		Sannipataja	
	N	%	N	%	N	%	N	%	N	%	N	%
VAIVARNA	158	70.5	39	58.2	20	46.5	38	80.9	26	89.7	35	92.1
MURCHHA	94	42	36	53.7	12	27.9	9	19.1	12	41.1	25	65.8
JWARA	98	43.7	8	11.9	32	74.4	7	14.9	22	75.9	29	76.3
KASA	128	57.1	35	52.2	28	65.1	21	44.7	20	69	24	63.2
HIKKA	59	26.3	17	25.4	21	48.8	3	6.4	8	27.6	10	26.3
SWASA	181	80.8	56	83.6	32	74.4	38	80.9	19	65.5	36	94.7
ASYA-VAIRASYA	152	67.8	40	59.7	25	58.1	34	72.3	22	75.9	31	81.6
TRISHA	74	33	16	23.9	26	60.5	7	14.9	10	34.5	19	50
PRAMOHA	130	58	29	43.3	39	90.7	8	17	22	75.9	32	84.2
CHHARDI	53	23.7	6	9	4	9.3	17	36.2	11	37.9	15	39.5
KAPHOTKLESHA	99	44.1	11	16.4	9	20.9	37	78.7	18	62.1	24	63.2
RUJA	140	62.5	57	85	12	27.9	22	46.8	21	72.4	28	73.7
ARUCHI	177	79	38	56.7	32	74.4	46	97.9	25	86.2	36	94.7
SOTHA	109	48.7	43	64.2	3	7	10	21.3	21	72.4	32	84.2

80.8% cases showed swasa followed by 79% of cases showing aruchi, 70.5% of cases showing vaivarna. Swasa was one of the most prevelant samanya lakshana of hridroga with 94.7% of sannipataja hridroga, 83.6% of vataja hridroga, 80.9% of kaphaja hridroga, 74.4% pittaja hridroga and 65.5% krimija hridroga. 84.2% sannipatik

hridroga, 90.7% pittaja hridroga shows pramoha. Ruja was predominant among vataja hridroga (85%), krimija hridroga (72.4%) and sannipatik (73.7%). 97.9% kaphaja hridroga and 94.7% sannipatik hridroga showed aruchi. Sotha was seen in 84.2% of sannipataja hridroga and 64.2% of vataja hridroga.

**R.8: Distribution of patient of hridroga as per samanya nidana and relation between types of hridroga and samanya nidana**

Nidan	No. Of Patient		Vataja		Pittaja		Kaphaja		Krimija		Sannipataja	
	N	%	N	%	N	%	N	%	N	%	N	%
ATI-USHNA AHAR	118	52.7	17	25.4	42	97.7	12	25.5	16	55.2	31	81.6
GURU AHAR	136	60.7	28	41.8	26	60.5	44	93.6	12	41.4	26	68.4
KASHAYA AHAR	145	64.7	60	89.6	9	20.9	31	66	19	65.5	26	68.4
TIKTA AHAR	95	42.4	39	58.2	29	67.4	7	14.9	4	13.8	16	42.1

SRAMA	103	46	42	62.7	27	62.8	4	8.5	6	20.7	24	63.2
ABHIGATAJA	84	37.5	30	44.8	16	37.2	4	8.5	15	51.7	19	50
ADHYASAN	143	63.8	35	52.2	26	60.5	41	87.2	19	65.5	22	57.9
SANCHINTAN	141	62.9	47	70.1	26	60.5	22	46.8	16	55.2	30	74.9
VEGA-DHARAN	101	45.1	26	38.8	22	51.2	20	42.6	20	69	13	34.2
ATI-VIRECHAN	60	26.8	17	25.4	12	27.9	1	2.1	8	27.6	22	57.9
BHAYA	90	40.2	31	46.3	13	30.2	14	29.8	12	41.4	19	50
TRASA	88	39.3	27	40.3	22	51.2	22	46.8	19	65.5	21	55.3
GADAATICCHARA	124	55.4	42	62.7	22	51.2	22	46.8	22	75.9	31	81.6
AJIRNA	136	60.7	33	49.3	22	51.2	25	53.2	25	86.2	31	81.6
KARSHANI	97	43.3	36	53.7	17	39.5	5	10.6	20	69	19	50
SANTAPA	112	50	23	34.3	31	72.1	12	25.5	19	65.5	27	71.1
MUKHAROGA	67	29.9	6	9	25	58.1	4	8.5	22	75.9	10	26.3

Ati-ushna ahara, guru- ahara, kashaya ahara, adhyasan, sanchintan gada- atichara, ajirna and santapa, each of these samanya nidans were present in more than 50% of the total patients of hridroga.

**R.9: DISTRIBUTION OF PATIENTS OF HRIDROGA AS PER DIET(PART-I)**

The study showed that majority of hrid roga sufferers were non vegetarians (93.8%).

**R.10: Distribution of patients of hridroga as per diet and relation between types of hridroga as per diet (Part-II)**

Food Habit	No. Of Patient		Vataja		Pittaja		Kaphaja		Krimija		Sannipataja	
	N	%	N	%	N	%	N	%	N	%	N	%
ADHYASAN	124	55.4	23	34.3	21	48.8	41	87.2	22	75.9	18	47.4
SAMASAN	106	17.3	3	4.5	35	82.4	7	14.9	29	100	32	84.2
PRAMITASAN	82	36.6	36	53.7	21	48.8	2	4.3	10	34.5	13	34.2
VIRUDDHASAN	206	92	62	92.5	38	88.4	45	95.7	23	79.3	38	100
VISAMASAN	147	65.6	50	74.6	40	93	7	14.9	18	62.1	32	84.2
ALPASAN	59	26.3	31	46.3	4	9.3			23	75.9	1	2.6

**R.11: Distribution of patients of hridroga as per diet and relation between types of hridroga as per diet (Part-III)**

Food items	No. Of findings		Vataja		Pittaja		Kaphaja		Krimija		Sannipataja	
	N	%	N	%	N	%	N	%	N	%	N	%
FISH	185	82.6	42	62.7	40	93	47	100	26	89.7	30	78.9
MEAT	136	60.7	39	58.2	12	27.9	27	57.4	25	86.2	33	86.8
BROILER CHICKEN	116	51.8	15	22.4	2	4.7	40	85.1	23	79.3	36	94.7
LEAFY VEGETABLES	84	37.5	26	38.8	33	76.7	13	27.7	8	27.6	4	10.5
DRIED THINGS	200	89.3	63	94	40	93	38	80.9	28	96.6	31	81.6
FRUITS	63	28.1	7	10.4	11	25.6	13	27.7	8	27.6	28	73.7
DAIRY	164	73.2	16	23.9	40	93	47	100	29	100	32	84.2
EGGS	156	69.6	40	59.7	16	37.2	37	78.7	27	93.1	36	94.7
SALAD	74	33	42	62.7	8	18.6			22	75.9	2	5.3
PORK	67	29.9	17	25.4	3	7	20	42.6	18	62.1	9	23.7
FATTY DIET	116	51.8	13	19.4	19	44.2	40	85.1	21	72.4	23	60.5
FAST FOOD	116	51.8	33	49.3	31	46.3	30	63.8	18	62.1	4	10.5
JAGGERY	51	22.8	10	14.9	6	14	21	44.7	14	48.3	11	28.9
REFINED OIL	113	50.4	36	53.7	23	53.7	27	57.4	21	72.4	6	15.8

In more 50% Of the cases fish, meat (beef and/or mutton), broiler chicken, dried things, dairy, eggs, fatty diet, fast food and use of refine oil was observed.

**R.12: Distribution of patients of hridroga as per rasa adhikya and relation between types of hridroga and rasadhikya**

Rasa	No. Of Findings		Vataja		Pittaja		Kaphaja		Krimija		Sannipataja	
	N	%	N	%	N	%	N	%	N	%	N	%
MADHUR	162	72.3	28	41.8	25	58.1	47	100	29	100	33	86.8
AMLA	128	57.1	2	3	42	97.7	38	80.9	25	86.2	21	55.3
LAVAN	212	94.6	63	94	43	100	39	83	29	100	38	100
KATU	111	49.6	38	56.7	43	100	10	21.3	7	24.1	22	57.9
TIKTA	107	47.8	52	77.6	41	95.3	6	12.8			8	21.1
KASHAYA	136	60.7	48	71.6	18	41.9	15	31.9	25	86.2	30	78.9
KSHARA	116	51.8	39	58.2	37	86	5	10.6	4	13.8	31	81.6

In more 50% of the patient excessive consumption of madhur rasa, amla rasa, lavan rasa, kashaya rasa and kshara was been observed.

**R.13: Distribution of patients of hridroga as per history of past illness**

Past illness	No. of Findings	
	N	%
HYPERTENSION	126	56.3
DMT II	78	34.8
RESPIRATORY DISORDER	63	28.1
RHEUMATIC FEVER	23	10.3
GYNAECOLOGICAL DISORDERS	71	31.7
MAJOR SURGERIES	72	32.1
ANAL DISORDERS,GIT DISORDERS	107	47.8
TUBERCULOSIS	22	9.8
THALASSEMIA, MALARIA, FILARIASIS ETC.	35	15.6
PREVIOUS EPISODE	112	50
REACTIVE ARTHRITIS	38	17
ORAL DISEASES, TONSILITIS	73	32.7
CHRONIC DIARRHOEAL DISEASE	52	23.2
CRD, SLE	7	3.1
INSIGNIFICANT	44	19.6

**R.14: Distribution of patients of hridroga as per treatment History**

More than 50% cases had showed positive treatment history for

excessive use of PPI (54.5%) and antibiotics (72.3%). Other major groups were analgesic (29%), regular anti-hypertensive drugs (35.3%), hypoglycemic drugs (32.6%), and steroid or other hormonal drugs (34.4%).

**R.15: Distribution of patients of hridroga as per addiction and relation between types of hridroga and addiction**

Addiction	No. Of Findings		Vataja		Pittaja		Kaphaja		Krimija		Sannipataja	
	N	%	N	%	N	%	N	%	N	%	N	%
TEA	204	91.1	63	94	37	86	35	74.5	29	100	38	100
TOBACCO CHEWING	151	67.4	65	97	27	62.8	3	6.4	20	69	36	94.7
SMOKING	93	41.5	50	74.6	15	34.9	2	4.3	1	3.4	25	65.8
ALCOHOL	163	72.8	37	55.2	32	74.4	37	78.7	25	86.2	32	84.2
BETTLENUT CHEWING	136	60.7	64	94	22	51.2	41	87.2	21	72.4	32	84.2
OTHERS	72	32.1	12	17.9	26	60.5	18	38.3	7	24.1	11	28.9

#### **R.16: Distribution of patients of hridroga as per life style**

42.4% of hridroga patients were practicing a sedentary or depressive life style. 28.6% patients were semi active and 29% patients were highly active in their day today life.

### **DISCUSSION**

#### **D.1: Distribution of patients of hridroga as per age group and Relation between types of hridroga and age group:**

14-24 years age group mostly comprised of kaphaja hridroga (14.9%) patients, followed by pittaja (9.3%). 24-40 years age group showed highest frequency in kaphaja hridroga (46.8%) and krimija hridroga (48.3%). 40-60 years age group showed majority in vataja hridroga (56.7%), followed by pittaja (39.5%). >60 years age group comprises of sannipataja hridroga (68.4%) followed by vataja hridroga (34.3%).

#### **D.2: Distribution of patients of hridroga as per gender and Relation between types of hridroga and gender:**

Male patients were mostly suffering from vataja hridroga (53.7% of vataja cases), pittaja (55.1% cases) and krimija hridroga (53% cases), as male patients are having more exposure to the etiologies of hridroga. Whereas 85.1% cases of kaphaja hridroga were found in female patients, this may be the cause because most of the female patients registered were housewives which indicate prevalence the etiologies like sedentary life style, negligence of nutrition and overall health, loneliness and depression.

#### **D.3: Showing distribution of patients of hridroga as per occupation and showing relation between types of hridroga and occupation**

Majority of patients suffering from hrid roga were housewives (40.6%) and most of them were suffering from kaphaja (53.2%). This may be because most of the female patients registered for the study were in the age group of 15-35 years of age group and in this group kaphaja hridroga was found to be most prevalent hridroga. Pittaja hridroga (51.2%); businessmen from kaphaja hridroga (4.9%) may be due to the stress they handle in their occupation, lack of exercise and irregular dietary habit. Vataja hridroga (29.9%) is prevalent among farmers as due to excessive physical hardwork, negligence towards overall health and nutrient deficient diet.

#### **D.4: Distribution of hridroga as per their types:**

The study showed majority of vataja hridroga (29.9%) as vata is the dosha which causes maximum number of ailments. Also in majority of the patients above 60 years of age there was a derangement in heart function, may be because of swabhava.

#### **D.5: Distribution of hridroga as per number of Samanya lakshana and Relation between types of hridroga and number of samanya lakshana seen in hridroga patients**

There were no any kaphaja or pittaja hridroga pts showing samanya lakshanas more than 10. At the same time there were no any patients

of sannipataja hridroga in the category of 4-6 no. of samanya lakshana. This may be because most of the vataja hridroga patient or kaphaja hridroga in the long run, due to negligence or mismanagement develop into sannipataja hridroga.

#### **D.6: Showing distribution of hridroga as per chronicity**

There were 49.1% cases showing C<sub>3</sub> chronicity i.e. >1 year old symptoms. This may be because most of the patients with acutely developed symptoms donot came to Govt. Ayurvedic Hospital due to lack of intensive care facility.

#### **D.7: Showing distribution of hridroga as per samanya lakshana and Showing relation between types of hridroga and samanya lakshana**

Swasa was seen in almost all types of hridroga in major percentage. This surely explains the relation between moola sthan (i.e. hridaya in this case) and respective srotas (i.e. prana vaha srota in this case). Most of the pramohi showed sannipataja (84.2%) and pittaja hridroga (90.7%). This may be due to the vitiation of sadhak pitta. Sotha was predominantly seen sannipataja and vataja hridroga. This may be because sannipataja hridroga and vataja hridroga are the chronic stages of kaphaja, pittaja and krimija hridroga; as sotha is mentioned among the upadravas of hridroga. This also implies that treatment and management of sannipataja and vataja hridroga are rather difficult (krichchra sadhya) in comparison to other types.

#### **D.8: Showing distribution of patient of hridroga as per samanya nidana and Showing relation between types of hridroga and samanya nidana**

Kashaya ahar, srama, sanchintan, gada atichara, tikta ahar and karshani are the major etiologies found in vataja hridrogas. Assamese community consumes a lot of beetle nut on daily basis providing kashaya ahar to be one of the most important etiologies. Among pittaja hridroga showed ati-ushna ahar, guru ahar, tikta ahar, srama, adhyasan, sanchintan and santapa. This type of etiologies was mostly observed in late adolescent aged to middle aged group. Among kaphaja hridroga showed guru ahar as their samanya nidana followed by adhyasan, ajirna and kashaya ahar. Ajirna, gada atichara, mukharoga and karshani were most found etiology in the krimija hridroga. This signifies importance of proper digestion and assimilation of food, proper diagnosis and management of a disease, oral hygiene, proper nutritious food and immunity. Gada atichar, was the most prevalent samanya nidana among sannipataja hridroga. This is indicating that this type of hridroga is always a cirakari (chronic) disease.

#### **D.9: Showing distribution of patients of hridroga as per diet (part-i)**

The study showed that majority of hrid roga sufferers were non vegetarians (93.8%). However, only a very few patient appeared at the time of study, may be because majority of the people of the population were consuming non-vegetarian diet.



#### **D.10: Showing distribution of patients of hridroga as per diet and Showing relation between types of hridroga as per diet (part-ii)**

Viruddhasan, adhyasan and visamasan, each of these dietary habits were seen in more than 50% of the patients. This may be due to changed lifestyle and easy availability of food which are neither balanced nor served in proper portions and combinations. Krimija hridroga showed samasan in 100% cases, sannipataja hridroga showed viruddhasan in 100% cases. This surely indicates our consumption of mismatched food at mismatched timings and intervals, are sufficient enough to make an illness chronic enough for a poor prognosis.

#### **D.11: Showing distribution of patients of hridroga as per diet and Showing relation between types of hridroga as per diet (part-iii)**

Excessive consumption of Fish was seen in 89.7% cases of krimija hridroga, 100% cases of kaphaja hridroga and 93% pittaja hridroga. Excessive consumption of meat was seen in 86.2% krimija hridroga and 86.8% in sannipatik hridroga. In 76.7% cases of pittaja hridroga showed excessive indulgence in leafy vegetables. Except sannipatik hridroga (10.5%) in all the cases of other types of hridroga fast food consumption were above 45% cases. Except sannipatik hridroga (15.8%) in all the cases of other types of hridroga refine oil consumption were above 50%. Excessive broiler chicken consumption was found in 85.1% cases of kaphaja hridroga, 94.7% of cases in sannipatik hridroga and 79.3% cases of krimija hridroga.

#### **D.12: Showing distribution of patients of hridroga as per rasa adhikya and Showing relation between types of hridroga and rasadhikya**

Madhur rasa predominance was seen in kaphaja hrid roga (100%), krimija hrid roga (100%). Kshara ati sevan was showing its predominance in pittaja (86%) and sannipataja (81.6%) hridroga

#### **D.13: Showing distribution of patients of hridroga as per history of past illness**

Hypertension, positive history of previous episode, obesity, DMT2, respiratory disorders, gynecological problems, oral diseases, pharyngitis etc., chronic diarrhoeal diseases were the commonest past illness seen among the patients, majorly supporting the "gada atichara" nidana. And only 19.6% of the cases showed no any significant history of past illness. This may be because a very less number of acutely ill were registered for the study. Also may be because most of the hridroga develops after disequilibrium caused by other systemic derangements and disorders over a period of time.

#### **D.14: Showing distribution of patients of hridroga as per treatment history**

Most of the cases had showed positive treatment history for excessive use of PPI, antibiotics, analgesic, regular anti-hypertensive drugs, hypoglycemic drugs, and steroid or other hormonal drugs. These medicines may cause a derangement in normal functioning of various agni (cellular metabolism) which in the long run due to weak agni and ama formation on top of the ailment present from before may result into symptoms developing into hridroga.

#### **D.15: Showing distribution of patients of hridroga as per addiction showing relation between types of hridroga and addiction**

Tea addiction, alcoholism, tobacco chewing, beetlenut chewing,

tobacco smoking were the major addictions seen in all types of hridroga. In pittaja hridroga, however, there were significantly lesser percentage of beetle nut chewers were present. This may be because beetlenut are predominant in kashaya rasa which inhibits pitta by rasa guna.

#### **D.16: Showing distribution of patients of hridroga as per life style**

42.4% of hridroga patients were practicing a sedentary or depressive life style. This may be a nidana of kaphaja and krimija hridroga. 29% patients were highly active in their day today life. Most of them were suffering from vataja hridroga.

### **CONCLUSION**

Samanya lakshana of hridroga not only signifies the signs and symptoms of various heart diseases but also various pathological conditions which affect cardio vascular system in any manner. Most of the hridroga are chronic in nature. More the disease is chronic more are number of samanya lakshana and dosa involvement. Hridroga is a disease, predominant in productive age of life i.e. 20-60 years. Males and females are almost equally affected by hridroga. Most of the acute ailments of heart are either pittaja or kaphaja hridroga.

Sedentary life style, increased BMI, deteriorating cardio-pulmonary health, hypertension, uncontrolled diabetes and untreated hyperthyroidism are the major etiologies today behind Hridroga. Chronic metabolic disorders if not treated properly result into hridroga in the long run. Psychological causes like excessive stress & grief, depression etc. leads to hridroga, and this signifies the increased rate of hridroga among housewives. Due to self-medication or blind prescription, overuse of PPI, Antibiotics, analgesics etc. in a short period of time hampers body's normal physiology there by developing different kinds of systemic disorders including Hridroga. Major dietary faults causing hridroga are consumption of junk food, calorie rich dense food, meat, fish etc. very often, excessive indulgence in gutkha, panmasala, alcohol etc., and taking food in larger quantities, in wrong timing and in wrong combination. Vegetarianism is the best dietary habit if not associated with pramitasan, viruddhasan and visamasan.

On the basis of etiopathology and symptomology, hridrogas are similar to that of the following respective heart diseases:

Vataja hridroga: Diabetic cardiomyopathy, disease with conduction defect, Atherosclerosis, malignant hypertension

Pittaja hridroga: Coronary heart disease, infectious carditis, hyperthyroidism

Kaphaja hridroga: Dyslipidaemia, hypothyroidism, COPD

Krimija hrid roga: RHD, severe anaemia,

Sannipataja hridroga: Chronic hypertensive heart disease, CCF.

### **REFERENCES**

1. Park K, Park's Textbook of Preventive and Social Medicine, M/S Banarsidas.Bhanot Publishers, 20<sup>th</sup> Edition, Chap, 6, 314-317.
2. Kumar Vinay, Abbas Abul K, Aster Jon C. Robbins and Cotran Pathologic Basis of Disease. South Asian Edition. Volume II. 12, Page No. 523. Published By Reed Elsevier India Private Limited, 9<sup>th</sup> Edition, Chap.

3. Park K, Park's Textbook of Preventive and Social Medicine, M/S Banarsidas. Bhanot Publishers, 20<sup>th</sup> Edition, Chap. 6, Page – 315-316.
4. WHO, Techn. Rep. Ser., No 678, 1982.
5. Madhavkara. Sastri Sudarsana, Upadhyaya Yadunandana, Editor. *Madhav Nidana*. Part 1. Reprint. Chaukhambha Prakashan, Varanasi Ch. 29 Ver. 1, 2014.
6. Susruta. Shastri Kaviraja Ambikadutta, Editor. *Susruta Samhita*. Vol II. Reprint. Chaukhambha Sanskrit Sansthan, Varanasi. Uttara Sthan Ch 43 Ver. 9, 2011.
7. Agnivesha. Dwivedi Lakshmidhar, Dwivedi BK, Goswami Pradip Kumar, Editors. *Caraka Samhita*. Vol III. Chowkhamba Krishnadas Academy, Varanasi. Chikitsa Sthan Ch 26 Ver. 77.
8. Agnivesha. Dwivedi Lakshmidhar, Dwivedi BK, Goswami Pradip Kumar, Editors. *Caraka Samhita*. Vol III. Chowkhamba Krishnadas Academy, Varanasi. Chikitsa Sthan Ch 12 Ver 13.
9. Vagbhata. Tripathi Brahmananda, Editor. Reprint. *Astanga Hridaya*. Chaukhamba Sanskrit Prathishthan, Delhi. Nidan Sthana. Ch 3 Ver. 38, 2015.
10. Agnivesha. Dwivedi Lakshmidhar, Dwivedi BK, Goswami Pradip Kumar, Editors. *Caraka Samhita*. Vol I. Chowkhamba Krishnadas Academy, Varanasi. Sutra Sthan Ch. 17 Ver. 31, *Caraka Samhita*. Vol III. Chikitsa Sthan Ch. 26 Ver. 78.
11. Agnivesha. Dwivedi Lakshmidhar, Dwivedi BK, Goswami Pradip Kumar, Editors. *Caraka Samhita*. Vol I. Chowkhamba Krishnadas Academy, Varanasi. Sutra Sthan Ch. 17 Ver. 33, *Caraka Samhita*. Vol III. Chikitsa Sthan Ch. 26 Ver. 79.
12. Agnivesha. Dwivedi Lakshmidhar, Dwivedi BK, Goswami Pradip Kumar, Editors. *Caraka Samhita*. Vol I. Chowkhamba Krishnadas Academy, Varanasi. Sutra Sthan Cha. Su. 17/35, *Caraka Samhita*. Vol III. Chikitsa Sthan Ch. 26 Ver. 80.
13. Agnivesha. Dwivedi Lakshmidhar, Dwivedi BK, Goswami Pradip Kumar, Editors. *Caraka Samhita*. Vol I. Chowkhamba Krishnadas Academy, Varanasi. Sutra Sthan Ch17 Ver. 36.
14. Agnivesha. Dwivedi Lakshmidhar, Dwivedi BK, Goswami Pradip Kumar, Editors. *Caraka Samhita*. Vol I. Chowkhamba Krishnadas Academy, Varanasi. Sutra Sthan Ch. 17 Ver. 39.
15. Susruta. Shastri Kaviraja Ambikadutta, Editor. *Susruta Samhita*. Vol I. Reprint. Chaukhambha Sanskrit Sansthan, Varanasi. Sutra Sthana. Ch. 15 Ver. 5, 2011.
16. Susruta. Shastri Kaviraja Ambikadutta, Editor. *Susruta Samhita*. Vol I. Reprint. Chaukhambha Sanskrit Sansthan, Varanasi. Sutra Sthan Ch. 44 Ver. 15, 2011.
17. Agnivesha. Dwivedi Lakshmidhar, Dwivedi BK, Goswami Pradip Kumar, Editors. *Caraka Samhita*. Vol I. Chowkhamba Krishnadas Academy, Varanasi. Sutra Sthan Ch. 30 Ver. 8-12.
18. Agnivesha. Dwivedi Lakshmidhar, Dwivedi BK, Goswami Pradip Kumar, Editors. *Caraka Samhita*. Vol III. Chowkhamba Krishnadas Academy, Varanasi. Chikitsa Sthan Ch. 29 Ver. 31-32.
19. Madhavkara. Sastri Sudarsana, Upadhyaya Yadunandana, Editor. *Madhav Nidana*. Part 1. Reprint. Chaukhambha Prakashan, Varanasi Ch. 33 Ver. 10, 2014.
20. Agnivesha. Dwivedi Lakshmidhar, Dwivedi BK, Goswami Pradip Kumar, Editors. *Caraka Samhita*. Vol III. Chowkhamba Krishnadas Academy, Varanasi. Chikitsa Sthan Cha. Ch. 23 Ver. 19.
21. Susruta. Shastri Kaviraja Ambikadutta, Editor. *Susruta Samhita*. Vol II. Reprint. Chaukhambha Sanskrit Sansthan, Varanasi. Uttara Sthan Ch. 45 Ver. 9, 2011.
22. Susruta. Shastri Kaviraja Ambikadutta, Editor. *Susruta Samhita*. Vol II. Reprint. Chaukhambha Sanskrit Sansthan, Varanasi. Uttara Sthan Ch. 47 Ver. 21, 2011.
23. Madhavkara. Sastri Sudarsana, Upadhyaya Yadunandana, Editor. *Madhav Nidana*. Part 2. Reprint. Chaukhambha Prakashan, Varanasi Ch 69 Ver 8, 2014.
24. Susruta. Shastri Kaviraja Ambikadutta, Editor. *Susruta Samhita*. Vol II. Reprint. Chaukhambha Sanskrit Sansthan, Varanasi. Uttara Sthan 54 Ver. 19, 2011.
25. Agnivesha. Dwivedi Lakshmidhar, Dwivedi BK, Goswami Pradip Kumar, Editors. *Caraka Samhita*. Vol III. Chowkhamba Krishnadas Academy, Varanasi. Chikitsa Sthan Ch. 28 Ver. 33.
26. Agnivesha. Dwivedi Lakshmidhar, Dwivedi BK, Goswami Pradip Kumar, Editors. *Caraka Samhita*. Vol III. Chowkhamba Krishnadas Academy, Varanasi. Chikitsa Sthan 15 Ver. 62.
27. Susruta. Shastri Kaviraja Ambikadutta, Editor. *Susruta Samhita*. Vol II. Reprint. Chaukhambha Sanskrit Sansthan, Varanasi. Uttara Sthan 54 Ver. 19, 2011.
28. Agnivesha. Dwivedi Lakshmidhar, Dwivedi BK, Goswami Pradip Kumar, Editors. *Caraka Samhita*. Vol III. Chowkhamba Krishnadas Academy, Varanasi. Chikitsa Sthan Ch 28 Ver. 13.
29. Agnivesha. Dwivedi Lakshmidhar, Dwivedi BK, Goswami Pradip Kumar, Editors. *Caraka Samhita*. Vol I. Chowkhamba Krishnadas Academy, Varanasi. Sutra Sthan Ch. 26 Ver. 43.
30. Agnivesha. Dwivedi Lakshmidhar, Dwivedi BK, Goswami Pradip Kumar, Editors. *Caraka Samhita*. Vol I. Chowkhamba Krishnadas Academy, Varanasi. Sutra Sthan Ch. 26 Ver. 9.
31. Agnivesha. Dwivedi Lakshmidhar, Dwivedi BK, Goswami Pradip Kumar, Editors. *Caraka Samhita*. Vol III. Chowkhamba Krishnadas Academy, Varanasi. Chikitsa Sthan Ch 5 Ver. 58.

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