

AN OBSERVATIONAL STUDY OF VATAJ HRIDROGA BY EVALUATING ECG CHANGES**Dr. Sunil Pandit Ghongade***

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ABSTRACT

In ayurvedic classic 5 types of Hridrogas are mentioned Vataja, Pittaja, Kaphaja, Sannipataja and Krumija. Acharya Vagbhata has different type of symptoms according to Doshik involvement. In Vataja Hridroga characteristic symptoms are Vepathu, Tudyate, Sphutativ, bhidyate Shvasa-avrodha, Hrud-Drava, Sthambha. Cardiac diseases is a class of diseases that involve the heart or blood vessels. Cardiovascular disease includes coronary artery diseases (CAD) such as angina and myocardial infarction (commonly known as a heart attack). Other CVDs are stroke, heart failure, 12 hypertensive heart disease, rheumatic heart disease, cardiomyopathy, heart arrhythmia. Etc E.C.G. is a graphic recording of electrical potentials generated in the heart. It is useful to identify cardiac diseases ECG can be easily available, low cost, safe, basic diagnostic, guiding for further investigations in cardiac diseases.

KEYWORDS: Hridroga, Vataj Hridrog, ECG.**INTRODUCTION**

In ayurvedic classic 5 types of Hridrogas are mentioned Vataja, Pittaja, Kaphaja, Sannipataja and Krumija. Acharya Vagbhata has different type of symptoms according to Doshik involvement. In Vataja Hridroga characteristic symptoms are Vepathu, Tudyate, Sphutativ, bhidyate Shvasa - avrodha, Hrud-Drava, Sthambha. Cardiac diseases is a class of diseases that involve the heart or blood vessels.^[1] Cardiovascular disease includes coronary artery diseases (CAD) such as angina and myocardial infarction (commonly known as a heart attack).^[1] Other CVDs are stroke, heart failure, hypertensive heart disease, rheumatic heart disease, cardiomyopathy, heart arrhythmia..etc. E.C.G. is a graphic recording of electrical potentials generated in the heart. It is useful to identify cardiac diseases ECG can be easily available, low cost, safe, basic diagnostic, guiding for further investigations in cardiac diseases. . All of the waves on an ECG tracing and the intervals between them have a predictable time duration, a range of acceptable amplitudes (voltages), and a typical morphology. Any deviation from the normal tracing is potentially pathological and therefore of clinical significance e.g. The p-wave is typically upright in most leads except for aVR; an unusual p-wave axis (inverted in other leads) can indicate anectopic atrial pacemaker, A PR interval consistently longer than 200ms diagnoses first degree antioventricular block, If the QRS complex is wide

(longer than 120 ms) it suggest disruption of the heart's conduction system, such as in LBBB, RBBB, or ventricular rhythms such as ventricular tachycardia. ST depressed or elevated it show ischemia, ST depression can also be caused by LVH. Inverted T wave can be a singh of myocardial ischemia. A prolonged QTc interval is a risk for ventricular tachyarrhythmias and sudden death. ECG will be helpful to diagnose vataj hridroga.

AIM

"TO STUDY ECG CHANGES IN VATAJ HRIDROGA"

OBJECTIVETo study of *Vataj Hridroga* with special reference to cardiacdiseases.

To study ECG in detail.

To observe ECG changes in *vataj hridroga* with specific cardiac diseases.

Table 1: Lakshana of Vataja Hridroga according to Charaka, Sushruta, Vagbhata are given in the table below.

Sr. No.	Lakshana	Modern term	Charaka	Sushruta	Vagbhata
1.	Vepathu	Tremors	+	-	+
2.	Veshtana	Cardiac cramps	+	-	+
3.	Stambh	Bradycardia	+	-	-
4.	Pramoha	Confused state	+	-	-
5.	Hrutshyunyata	Emptiness in heart	+	-	-
6.	Dara	Palpitation	+	-	-
7.	Jirne atyarthe vedana	Post prandial pain	+	-	-
8.	Hrutshul	Chest pain			
8a.	Ayamyate	Dilatation pain	-	+	-
8b.	Tudyate	Pricking pain	-	+	+
8c.	Veshtana	Squeezing pain	+	-	+
8d.	Nirmatyate	Piercing pain	-	+	-
8e.	Diryate	Cutting pain	-	+	-
8f.	Spotyate	Breaking pain	-	+	+
8g.	Patyate	Splitting pain	-	+	+
8h.	Bhidyate	Piercing pain			
9.	Shulyate Atyarthe	Severe pain	-	-	+
10.	Shosha	Sense of dryness	-	-	+
11.	Drava	Tachycardia	+	-	-
12.	Aksmat Dinata	Fatigue	-	-	+
13.	Shwasavrodha	Dyspnea	-	-	+
14.	Shoka	Grief	-	-	+
15.	Bhaya	Fear	-	-	+
16.	Shabdasaahihnuta	Intolerance to sound	-	-	+
17.	Alpanidra	Insomnia	-	-	+
18.	Stabdhata	Bradycardia	-	-	+

MATERIAL AND METHODS

The details case format was designed for the study which is attached in annexure. Initially detailed history taken and complete clinical examination according to ayurvedic concept of Vataj Hridroga was done from OPD and IPD of ayurvedic collage and hospital. The finding of each patient were recorded in proforma. Total 100 patient are included in present study. The patients were explained for necessity of ECG according to their observation of sign, symptoms. ECG is done by ECG machine.

Probable interpretation be done according to conclude the study.

MATERIALS

Bruhat-trayee, Lahutrayee, all other Ayurvedic texts regarding the topic.
Modern texts regarding the topic.
Research journals, papers, published documents, websites etc.
Patients fulfilling basic criteria.
Hand Gloves Face Mask ECG Jelly
ECG Machined

Gloves**Fig. No. 1 (Gloves)****Face Mask****Fig. No.2 Face Mask****ECG Jelly****Fig. No.3 ECG Gelly****ECG Machine****Fig No.4 ECG Machine.**

The basic principle of the ECG is that stimulation of a muscle alters the electrical potential of the muscle fibres. Cardiac cells, unlike other cells, have a property known as automaticity, which is the capacity to spontaneously initiate impulses.

METHODOLOGY

A study on 100 patients was conducted, which were randomly selected.

The study design was observation study. Total 100 diagnosed patients of Vataj Hridroga were selected by randomly sampling method as per inclusion and exclusion

criteria. A special proforma was prepared with detailed history taking, physical signs, symptoms and investigations. The data was analyzed statistically were taken according to the assessment criteria.

Study design

It is observational study on etiopathogenesis of Vataj-Hridroga

Study setting

survey was carried in surrounding community. Investigations were carried in our Ayurvedic Hospital.

Duration of study

Duration of study was 18 months.

Study centre

Concerned centre.

Sample size

For the present study 100 patients of Vataj-Hridroga were taken.

Sample Technique

By simple Randomization Technique subjects fulfilling inclusion criteria and objective parameters were selected.

STUDY DESIGN

Total 100 subjects were selected according to criteria.

STUDY DESIGN → Study will be conducted on 100 diagnosed patients of *vataj Hridroga* and Written Consent of Patient Will be taken → Case Taking

with History → Investigation (ECG) Assessment

→ Correlation Conclusion will be drawn by applying chi square test.

Flow Chart No.01

It is observational study on etiopathogenesis of Vataj-Hridroga

Operational Definition

A special record form was prepared for the records of Vataj-Hridroga, ECG investigation test for irrespective of age, sex, religion, occupation and economic status were prepared with consent form having details of subject history, physical sign and symptoms and ECG investigation in classical and allied sciences and was analyzed statistically by applying chi-square test for subjective criteria.

ECG

Site

Electrode placement for a 12-lead ECG is standard, with leads placed on the left and right arm and left and right leg. Another pair of electrodes is placed between the fourth and fifth ribs on the left and right side of the sternum.

Preparation of the site

Inside calf, midway between knee and ankle. Fourth intercostal place at the right margin of the sternum. Fourth intercostal place at the left margin of the sternum. Midway between V2 and V4 (on top of the 5th rib).

Use of sterile disposable hand gloves and EEG gelly.

Clinical Significance

The ECG is of critical importance in the diagnosis of AMI. Clinical conditions such as acute pericarditis, esophageal rupture, subarachnoid hemorrhage, hypothermia and pneumothorax, result in ECG changes that include: ST elevation and T wave inversion.

Procedure

Once an ECG trace has been obtained, **switch off the ECG machine.**

Detach the ECG leads from the electrodes and then remove the electrodes carefully, warning the patient this may feel uncomfortable. Explain to the patient that the procedure is now complete.

Thank the patient for their time.

Label the ECG with the patient's details

Name

Date of birth

Hospital number

Indication for the ECG

Dispose of Hand gloves appropriately and wash your hands.

Method of selection of study subjects

Total 100 diagnosed patients of Vataj-Hridroga were registered randomly for the present clinical study with the help of Inclusion and Exclusion criteria. The patients had been selected from the OPD and IPD of Ayurved Mahavidyalaya and rugnalaya.

Inclusion Criteria

Patient having minimum two *lakshana* out of *vepathu, tudyate, sphutativ, bhidyate, shavsa-avrodha, hrud-drava, sthabdhata* which are of *Vataj*

hridrog explained in *ayurved* text will be selected.

Patient will be selected irrespective of age, sex, religion, occupation and economic status.

Exclusion Criteria

Pregnant women.

Any other systemic disorder with *Hridroga*.

congenital heart diseases

patients undergone cardiac surgery.

Assessment Criteria

SUBJECTIVE CRITERIA**Vepathu (Murmur)****Table No.02 Vepathu (Murmur).**

GRADE	Vepathu (Murmur)
0	No Murmur
1	The murmur is only audible on listening carefully for sometime
2	The murmur is faint but immediately audible on placing stethoscope on the chest
3	A loud murmur with a thrill

Tudyate, Sphutativ, Bhidyate (Anginal pain)**Method**

By interrogation (asking) the patients

Table No.03 Tudyate, Sphutativ, Bhidyate (Anginal Pain).

GRADE	Tudyate, Sphutativ, bhidyate (Anginal pain)
0	No anginal pain
1	Anginal pain occurs at exertion (mild)
2	Anginal pain occurs at walking and climbing stairs (moderate)
3	Anginal pain occurs at rest (severe)

3.Shvasa – avrodha (Dyspnea)

Method: By interrogation (asking) the patients.

Table No.04 shvasa-Avrodh (Dyspnea).

GRADE	Shvasa-avrodha (Dyspnoea)
0	R.R-17-20/min no dyspnoea
1	R.R-20-25/min mild dyspnoea
2	R.R-25-35/min moderate dyspnoea
3	R.R more than 35/min severe dyspnoea

4.Hrud-Drava (Palpitation)**Method**

By interrogation (asking) the patients.

Table No.05 Hrud-Drava (Palpitation).

GRADE	Hrud-Drava (palpitation)
0	No Palpitation
1	Occasional palpitation
2	Palpitation on exertion
3	Continuous palpitation

4.Stabdhata (Bradycardia)**Method**

By interrogation (asking) the patients.

Table No.06 Standhata (Bradycardia).

GRADE	Stabdhata (Bradycardia)
0	H.R-60 to 80/min normal
1	H.R-50 to 60/min mild
2	H.R-40 to 50/min moderate
3	H.R below 40/min moderate

OBJECTIVE CRITERIA**ECG****Table No.07 (ECG).**

ECG WAVE AND INTERVALS	NORMAL	ABNORMALITIES
p-wave		
PR-interval		
QRS-complex		
ST-segment		
T-wave		
QT-interval		
PP-interval		
RR-interval		

OBSERVATIONS**Age wise distribution**

41 were reported in age group of 50 – 60 years, followed by 29 patients observed in the age group of 40 – 50 years, 17 patients were observed in age group of 30 40 years, 12 patients observed in the age group of 60 – 70 years, and

1 patient was observed in age group of 70 – 80 years 2. Gender wise distribution 68 patients were Male and 32 patients were Female.

Economic Class wise distribution

39 patients were belongs Lower Middle Class, 35 patients were belongs Poor Class and 26 patients were belongs to Upper Middle Class.

Occupation wise distribution

31 patients were doing Job, followed by 27 patients were House wife / doing House work, 22 patients were Labour, 19 patients were Farmer, and remaining 1 patient was Student.

Education wise distribution

62 patients were having Primary education, followed by 20 patients were having higher education, and remaining 18 patients were having Secondary education.

Marital status wise distribution

The above table shows that all 100 patients were having Married.

Prakruti wise distribution

48 patients were having Vata- Kapha prakruti, 26 patients were having Vata-Pitta prakruti, 15 patients were having Pitta-Kapha prakruti, 8 patients were having Kapha-Pitta prakruti, 2 patients were having Kapha-Vata prakruti, and 1 patient was having Pitta- Vata prakruti.

Agni wise distribution

37 patients were having Manda type of Agni, followed by 32 patients were having Visham Agni, and 31 patients were having Tikshnagni.

Koshtha wise distribution

36 patients were having Krura Koshtha, followed by 34 patients were having Mrudu Koshtha, and 30 patients were having Madhyam Koshtha.

Diet wise distribution

54 patients were Pure Vegetarian and 46 patients were having Mixed type of Diet.

Rasa wise distribution:

35 patients were having Kashaya rasa pradhan in ahara, 33 patients were having Madhur rasa pradhan, 20 patients were having Tikta rasa pradhan, and 12 patients were having Katu rasa pradhan in ahara.

Ashana wise distribution

52 were having Virudhyashana and 48 patients were having Adhyashana.

Manas Bhava wise distribution:

38 were having Chinta, 31 patients were not having Bhaya, 24 patients were not having Krodha, and 7 patients were not having Shoka.

Addiction wise distribution:

31 were not having any type of addiction, 26 patients were not having addiction of smoking, 22 patients were

not having addiction of alcohol, and 21 patients were not having addiction of tobacco.

Family History wise distribution

58 were nothaving Family History and 42 patients were having Family History.

Vepathu (Murmur) gradation wise distribution

78 patients were found in 0 (No Murmur) gradation, followed by 12 patients were found in 2 (The murmur is faint but immediately audible on placing stethoscope on the chest) gradation, and 10 patients were found in 1 (The murmur is only audible on listing carefully for sometime) gradation.

Tudyate, Sphutativ, bhidyate (Anginal pain) gradation wise distribution

49 patients were found in 0 (No anginal pain) gradation, followed by 30 patients were found in 2 (Anginal pain occurs at walking and climbing stairs) gradation, and 21 patients were found in 1 (Anginal pain occurs at exertion) gradation.

Shvasa – avrodha (Dyspnoea) gradation wise distribution

40 patients were found in 2 (R.R- 25-35/min moderate dyspnoea) gradation, followed by 26 patients were found in 3 (R.R more than 35/min severe dyspnoea) gradation, 18 patients were found in 1 (R.R-20-25/min mild dyspnoea) gradation and 16 patients were found in 0 (R.R-17-20/min mild dyspnoea) gradation.

Hrud-Drava (palpitation) gradation wise distribution

67 patients were found in 0 (No Palpitation) gradation, followed by 18 patients were found in 2 (Palpitation on exertion) gradation, 10 patients were found in 1 (Occasional palpitation) gradation and 5 patients were found in 3 (Continuous palpitation) gradation.

Stabdhatta (Bradycardia) gradation wise

80 patients were found in 0 (H.R- 60 to 80/min normal) gradation, followed by 10 patients were found in 1 (H.R-50 to 60/min mild) gradation, 7 patients were found in 2 (H.R-40 to 50/min moderate) gradation and 3 patients were found in 3 (H.R below 40/min moderate) gradation.

ECG Changes wise distribution

26 were having Abnormal ST Segment, 24 patients were having Normal ECG, 19 patients were having abnormal QRS complex, another 19 patients were having abnormal T wave, and 12 patients were having abnormal P wave in ECG.

DISCUSSION

In present study, 100 patient of Vataj Hridroga were selected. Clinical examination & assessment of patients were done according to Ayurvedic & modern concept. Study was mainly based on Nidan & Lakshanas of Vataj-Hridroga, ECG done.

ECG, were done of every patient. The clinical findings as well as report of ECG were noted in the proforma designed for the study.

The data obtained was arranged in tables and discussed.

Distribution of patients according to Age

It was observed that the incidence of the Vataj-Hridroga was highest in the age group of 50-60 years (41%) next to that maximum patients belongs to age group of 40-50 years (29%).

Because Vataj Hridroga is common in age group more than 40 years but spreads over all ranges of life. Because Vata dosha is dominant in old age. Dhatu Kshaya is there in old age. Their dietary habits, co-morbidities diabetes, Hypertension may also responsible for disease.

Distribution of patients according to Sex

It was observed that the more incidences were noted in males (68%) compared to females (32%). Possible reasons are strenuous work more physical exertion, riding Vehicles, sedentary jobs demanding prolonged hours of sitting and increased travels and also because of males are more prone to addiction like drinking, smoking etc.

Distribution of patients according to Socio-Economical Status

In present study maximum patient were from Lower Middle Class and Poor Class i.e. 39% & 35% respectively. Socio-Economical Status is more strongly associated with cardiovascular factors. In Lower Middle-Class group and Poor Class group people consumption high amount of potatoes, rice and non-vegetables. Vataj Hridroga most common in Lower Middle Class and Poor Class group because they are not concern about their health.

Distribution of patients according to Occupational Status

There is marked relation between the Occupation and Vataj Hridroga. In present study highest incidences were among job (31%), and House wife/House work (27%), followed by Labour (22%), Farmer (19%) and student (1%). These are job are moderate to strenuous types of work and demands continuous hard work. Due to which they develop, irregular bowel and food habits, addiction, insomnia etc.

Distribution of patient according to education status

In study maximum patient observed of primary educated (62%) next to that higher educated (20%) and secondary educated (18%).

In primary educated group are not awareness about the unhealthy stereotypes and maternal deprivation, excessive physical as well as psychological stress, anger and poverty, adoption of unhealthy behaviors, such as smoking, alcohol abuse. The primary educated men smoke the large number of cigarettes per day. Vataj Hridroga most common in primary educated people because they were not concern about their health.

Distribution of patients according to Marital Status

In study more incidences of Vataj Hridroga were noted in Married persons (100%) than unmarried persons (0%). Vataj-Hridroga is more prone in age group 40-60 years. In this age group most of the people got married. Marital status did not contribute to the risk factor for Vataj-Hridroga.

Distribution of patients according to Prakruti

In study maximum patients observed of Vata-Pitta prakruti (48%). Next to that of Vata-Kapha prakruti Patients observed (26%). Observation indicates that Vataj Hridroga dominantly found in Vata-Pitta prakruti. Person of any prakruti if indulges in Vata-Prakopak ahar and vihar may suffer from Vataj Hridroga over a period of compare to Kaphanubandhi and Pittanibandhi. Dry, Spicy, improper diet, excessive exercise, insomnia, excessive alcohol intake are main causes of aggravation of doshas.

Distribution of patients according to Agni

In study showed maximum number of patients of Manda and Visham that is 37% & 32% respectively. Emotional disturbances that is chinta, Bhaya, Shoka, Krodha, Trass, Fatigue, Suppressed or over active appetite causes agni dushti. In Manda and Visham there is improper digestion and metabolism seen that is sometimes may performs normal function and sometime abnormal one, causes upward movement of Vata inside the koshtha and straining exercise to evacuate mala. Upward movement of Vata leads to pran, udan and vyan vayu dushti resulting in Vataj Hridroga. Generally, in maximum patient of Vataj Hridroga has complaints of Indigestion and constipation.

Distribution of Patients according to Koshtha

In study as per Koshtha, maximum number of patients is Krura Koshtha (36%). Koshta is responsible for improper digestion of taken food. If ahar remain undigested then there is formation of ama which causes margavarodha and Vataprakopa.

Distribution of patients according to Diet

In study as per diet 54% patients where vegetarian were mixed diet patients is 46%. Non-vege diet is statistically significant as cause of vataj hridroga, as nonvegetarian food increased cholesterol level which causes atherosclerosis.

Distribution of patients as per Rasa, Virudhashan/Adhyashan, Ruksha, Shushka, Alpa bhojan

In study as per Rasa sevan in diet 35% patients (maximum) having Kashayrasatmak ahar habitually. 52% patients found of taking Virudhyashana, 48% Patients found of taking Adhyashana. 56% & 48% patients are found to having shuska and ruksha gunatmak ahar respectively. 52% patients found of taking alpa bhojan.

In this study Kashayrastmak ahar, Sushka & Ruksha gunatmak has been found statistically significant.

In this type of ahar causes vitiation of vata with Pittanubandha due to ruksha & Khara guna of Vata & Teekshana and Ushna guna of Pitta which disturbs Jatharagni and improper aahar rasa formation leads to Vataj Hridroga.

Vatprakopak rasa are considered Katu, Tikta, Kashay. Now a day's peoples are fond of eating chips, kurkure, chat, spicy and salted items which are katu, tikta rasatmak as well as sushka and ruksha. Primary class people take chapati with onion, barley, pickle instead green and fresh vegetables these all-food habits vitiate vata dosha. Cold-drinks are sheet gunatmak which also Vatprakopak itself.

Distribution of patients according to Upvas, Vegdharan, Vyayam

In study Higher incidences of Vegdharan (53%), Upvas(51%) and Ativyayam (40%) were found in patients. Vegdharan and Upvas causes Vataj Hridroga possibly because of there is rasa kshaya which cause further pathogenesis. Habitual Vegavarodha specially Mala, Mutra and Adhovat causes Pakwashayasth apan vayu dushti which obstructs movements of stool, urine and flatus giving rise to Udavarta. Udavarta causes apanvayudushti & its upward movement which causes harm to Trimarmas. Saman vayu resides on Kostha. If vata, Mutra & Purisha anuloman not done then this koshtashrit saman vayu envelopes apan vayu, results in symptoms of Vataj Hridroga.

Distribution of patients as per Addiction

In study data indicates that here might be relation in the incidences of Vataj-Hridroga and Addiction. Mainly alcohol intake and smoking.

Addiction of Smoking, Alcohol, Tobacco chewing does not cause hridroga directly but smokers & Tobacco chewers are comes in high risk person for cardiovascular disease. Nicotine present in tobacco when mixes with blood causes rakta, Pitta, and Ojavikruti. Triglycerides level which is beneficial but when effects are weighted against adverse effect of high intake then it is found that in high quantity it causes medodhatu dusthi and agnimandya then amotpatti, it is risk factor for cardiovascular diseases.

Distribution of patients according to Family History

In study 42% patients are found to have family history of cardiac disease while 58% patient not having family history of cardiac disease.

Although there was no significant difference but the percentage of having family history is more in Vataj Hridroga. People with a family history of heart disease share common environments and other potential factors that increase their risk. The risk for heart disease can increase even more when heredity combines with unhealthy lifestyle, such as smoking cigarettes and eating an unhealthy diet.

Distribution of Patients according to Vepathu Vedana

In study as per having Vepathu vedna (Murmur) maximum patient having 15% found of having murmur sound often (grade 2nd) and minimum patient of (10%) found of grade first means having murmur sound. Vepathu Vedana is statistically significant at grade 2 symptoms. But this Vedana is not life threatening. It is possibly due to irregular dietary and bowel habits along with consumption of spicy food stuff.

Distribution of patients according to Tudyate, Sputative, Bhidyate Vedana:

In study as per tudyate, Sputative, Bhidyate vedana (Anginal Pain) maximum patients found of grade 2 (30%) having anginal pain occurs at walking and climbing stairs and minimum patients found of grade 1 (10%) having anginal pain occurs at exertion. Vitiation of Prana and Udan vayu is there which causes anginal pain.

Distribution of Patients according to Shvasa-avrodha Vedana:

In study as per Shvasa-avrodha (Dyspnoea) maximum patients found of grade 2 (40%) means having Dyspnoea while walks slower than contemporaries because of breathlessness, or has to stop for breath when walking own pace. and minimum patients grade 1 (18%) short of breath when hurrying on level ground or walking up a slight incline.

In this study Shvasa-avrodha is significant for grade 2 symptoms. As there is vitiation of Prana, Udan and Vyan vayu. Pran vayu helps in inhalation and Udan and Vyan vayu help in exhalation. In casualty when patient comes with severe breathlessness along with hypotension and arrhythmia, the first thing required is oxygen support as there was vitiation of these three vayu, then we manage circulation and arrhythmia. (ABC=1st Airway then 2nd Breathing then 3rd Circulation).

Distribution of Patients according to Hrud-Drava Vedana

As per Hrud-Drava Vedana maximum patients grade 2 (18%) having palpitation occurs on exertion and minimum patients of Hrud-Drava Vedana grade 3 (5%) having palpitation occurs on continuous. In grade three having palpitation always requiring medication/admission/DC shock.

Distribution of Patients according to Stabdhatta Vedana

In study as per Stabdhatta Vedana maximum Patients grade 1 (10%) having Bradycardia when patient heart is below 50/min and minimum Patients of Stabdhatta Vedana grade 3 (3%) having Bradycardia when heart is below 40/min.

Distribution of Patients according to ECG changes

In present study maximum patient observed of ECG changes (abnormal ECG) (76%) and also in the abnormal ECG changes observed maximum patient of ST Segment

abnormalities (26%). In the abnormal ECG changes Observed minimum patient of P wave abnormalities (12%).

CONCLUSION

Conclusion were drawn on the basis of Observation and result of study which are described as follow.

According to Hetus And Likshana of Vataj-Hridroga:

1. Male were more prone to Vataj-Hridroga as compare to Female.

2. Vataj-Hridroga is found mainly in Pitta Prakriti.

This study shows that incidence of Vataj-Hridroga increases as age advances.

Vataj-Hridroga is more common in low socioeconomic group with prolong exertional and strenuous type of work.

Major Sign and symptoms of Vataj-Hridroga are Shava-avrodh, Hrid-Dravah and Tudyate, Sphutativ, Bhidyate (anginal pain).

As per aharatmak hetus Kashay rasa sevan, ruksha, sushka, alpa bhojan, upvas, adhyashan, virudhashan, atimamsahar causes Vataj Hridroga.

As per viharatmak hetus ativyam, vegadharan, madyapan (alcohol) and tambhakhu seven (Tobacco) causes Vataj-Hridroga.

as per manas hetus Chinta and Bhaya causes Vataj Hridroga which reflect in ECG.

Majority of cases of Vataj-Hridroga presented with Shvasa-Avrodh, Tudyate, Sphutativ, Bhidyate vedana.

In Vataj Hridroga Shvasa-Avrodh, Tudyate, Sphutativ, Bhidyate vedana and Chinta (stress) causes Insomnia.

Family history of cardiac disease is more in Vataj-Hridroga.

ECG and Vataj Hridroga: ECG changes as per gradation of symptoms of Vataj Hridroga:

Rhythmic changes become more severe in ECG as grade of symptoms of Vataj-Hridroga increases (such as Shvasa-Avrodh, Tudyate, Sphutativ, Bhidyate vedana etc).

Clinical assessment and ECG both are important in Vataj-Hridroga. 3. Chinta, Bhaya, Ativyayam and Vegdharan these hetus showed major changes in Vataj-Hridroga, hence in these hetus ECG should be done.

4. Hrid-dravah, Shvasa-Avrodh, Tudyate, Sphutativ, Bhidyate vedana which should showed major changes, hence in these lakshanas ECG should be done.

REFERENCE

1. Dr. Brahmanand Tripathi, Charak Samhita, Sutrasthana (purvardha), athath kiyanti shirsiyam Aadhyayam, Chaukhambha surbharti prakashan, Varanasi, 5th Edition, 1997 (11th series) page no.339, shlok no.30-31.
2. Kaviraja Ambikadatta Shastri, Sushrit Samhita Uttarsthana (uttarardha), Athato Hridrogrprathishedham, Chaukhambha Sanskrit sansthan Varanasi, 11th Edition - 1997 (156 series) page no-280, shlok no.6.
3. Kaviraja Atridev Gupta, Asthanga-sangraha Nidansthana (purvardha), Rajyakshamadi

Aadhyaya, Chaukhambha Krushanadas Akadami Varanasi, Reprint-2005; (31 series), page no-364, shlok no. 41-42.

4. Ayurvedacharya Shri. Sudarshan Shastri, Madhav Nidan, Hridrognidanam, Chaukhambha Sanskrit Sansthan Varanasi, Reprint-2003; (158 series), page no-547, Shlok no. 3.
5. Vaidya Shri lakashmipati Shastri, Yogratnakar, Uttarardha, Athato Hridrog Nidan, Chaukhambha Sanskrit sansthan, 5th Edition (160 series), Page no-45, Shlok no.1.
6. Pracharya Anant Damodar Athavale, Vyadhivinichaya, Hridrog vyadhi, Shri. Radha Damodar pratisthan Pune, 2nd Edition, Page no-61-62.
7. Harsh Mohan, Text Book Of Pathology, Jaypee Brothers New Delhi, 6th Edition 2010, Section-3, Systemic Pathology, Chapter no-16 (The heart), Page no.417-460.
8. Nisha Kumari, A Study Of Etiopathogenesis Of Hridroga With Special To Hypertensive Heart Diseases, Rajiv Gandhi University Of Health Sciences Bangalore, 2006.
9. A.R. Murthy & R.H. Singh, Ayurvedic concept of Hridroga its present prevalence, Department of kayachikitsa, Institute of medical science, Banaras Hindu University, Varanasi vol-xii nos-3 to 4 Jan-April 1993; pages.403-413.
10. Frank. nG. Yanowitz, Introduction to ECG interpretation, (IHC ECG Services, LDS hospital and Intermountain medical centre, salt lake city, Utah, Volume 9.0, Edition 2016 (<http://ecg.utah.edu>).