

**STUDY OF PREDIAGNOSED CORONARY ARTERY DISEASE PATIENTS  
FROM AYURVEDIC VIEW WITH SPECIAL REFERENCE TO MANAS**

**BHAVAS**

A THESIS SUBMITTED TO  
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FOR AWARD OF DEGREE OF  
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UNDER THE FACULTY OF AYURVEDA

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## **CERTIFICATE**

This is to certify that the work incorporated in the thesis entitled “Study of prediagnosed coronary artery disease patients from Ayurvedic view with special reference to Manas Bhavas” for the degree of ‘Doctor of Philosophy’ in the subject of **KRIYA SHARIR** under the faculty of AYURVEDA has been carried out by Dr.Ajay Dahiya in the Department of KRIYA SHARIR at Bharati Vidyapeeth Deemed University,Pune during the period from November 2012 to August 2015 under the guidance Dr.(Mrs.)Kavita V. Indapurkar.

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This is to certify that the work incorporated in the thesis entitled “Study of prediagnosed coronary artery disease patients from Ayurvedic view with special reference to Manas Bhavas” submitted by Dr.Ajay Dahiya for the degree of ‘Doctor of Philosophy’ in the subject of Kriya Sharir under the faculty of Ayurveda has been carried out in the Department of Kriya Sharir, Bharati Vidyapeeth’s College Of Ayurveda, Pune during the period from November 2012 to August 2015, under my direct supervision/ guidance.

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## **DECLARATION BY THE CANDIDATE**

I hereby declare that the thesis entitled “Study of prediagnosed coronary artery disease patients from Ayurvedic view with special reference to Manas Bhavas” submitted by me to the Bharati Vidyapeeth University, Pune for the degree of **Doctor of Philosophy (Ph.D.)** in Kriya Sharir under the Faculty of Ayurveda is original piece of work carried out by me under the supervision of Dr.(Mrs.) Kavita V. Indapurkar.

I further declare that it has not been submitted to this or any other university or Institution for the award of any degree or Diploma.

I also confirm that all the material which I have borrowed from other sources and incorporated in this thesis is duly acknowledged. If any material is not duly acknowledged and found incorporated in this thesis, it is entirely my responsibility. I am fully aware of the implications of any such act which might have been committed by me advertently or inadvertently.

Place : Pune

Date :     /     /

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## **CERTIFICATE**

This is to certify that Dr.Ajay Dahiya Ph.D student of this institution has completed this dissertation on the topic“Study of prediagnosed coronary artery disease patients from Ayurvedic view with special reference to Manas Bhavas” under my general supervision and guidance.

The candidate has presented his topic in Pre Ph.D seminar on 29 August, 2015 and suggestions given by the subject experts in the seminar and remarks given by the experts in assessments of the synopsis are all incorporated in this dissertation.

The candidate has put up hard work after making an intensive study of the subject coupled with theoretical study and originality of thought expressions.

I recommend the same for being submitted to the adjudicators.

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### KEYS FOR ABBREVIATIONS

ՉԷ - Չղջիկի մոմի

Ch. = Charaka

ՄՇ - Մոծի մոմի

Su. = Sushruta

ԸՇ ՄԻ - ԸՇձ զոմոն

As.Sa.= Astanga Sangraha

ԸՇ.Է. - ԸՇձ զԷՕՅ

As.H. = Astanga Hrudya

ՄՇ ՄԻ - Մոծի կոճի մոմի

ԿՇ ՈՇ - ԿՇձ ՈՇՈՇ

ՄՈ - Մոծոմ

Su. = Sutrasthana

ՈՇ - ՈՇձ զոմ

Ni. = Nidanasthana

ՈՇ - ՈՇձ զոմ

Vi. = Vimanasthana

ՄՇ - Մոծի զոմ

Sh. = Sharirasthana

Fb - FbՅճ զոմ

ՈՇ - ՈՇձ զոմ

Ci. = Cikitsasthana

ԿՇ - ԿՇձ զոմ

ՈՇ - ՈՇձ զոմ

Si = Sidhistan

**G.-GÉlç**

**हृदय - हृदय**

CAD=coronary artery disease

**Abstract:**

**Title:** Study of prediagnosed coronary artery disease patients from Ayurvedic view with special reference to Manas Bhavas.

**Introduction:**

Ayurveda deals with Ayu (life).

Therefore research done in the field of Ayurveda gives emphasis to health prophylaxis along with the treatment.

CAD is frequently increasing now a days. It is one of the main reason of cardiac deaths. Stress is one of the main predisposing factor of CAD.

State of Mana is related to stress. For years it has been common knowledge that people who are under stress have an increased risk of heart disease. How people respond to stress may be more important than the stress itself. People respond according to their Manas Bhavas. In recent years, we have learnt a lot about stress and heart disease. When we refer to “stress,” we are often talking about two types of stress: physical stress, or emotional stress.

**Aim & Objectives:** To assess the association between Coronary Artery Disease & Manas Bhavas.

**Materials & Methodology:**

\*1. Literary: Study in detail about Heart, coronary heart disease from modern & ayurvedic texts & Manas Prakruti, Manas Bhavas, Mana in detail from ayurvedic samhitas, literatures.

\*2. Practical: Quantitative assessment of Manas Prakruti in recently prediagnosed coronary artery disease patients from CDAC proforma.

\*3. Integration of the above said clinical and practical work to draw the conclusion.

**Inclusion Criteria:**

1) Recently prediagnosed coronary artery disease patients.

3) Patients of either sex with age group between 30-50 yrs.

4) Sample size was 143 determined by Sample size formula (as recommended by statistician)  $n = \frac{Z^2 \times P(1-P)}{d^2}$  where n=total no., Z=1.96 Standard normal value, P=prevalence of disease, d=0.05 maximum error)

**Exclusion Criteria:**

1) Patient of acute MI (myocardial infarction).

2) Patient of valvular heart disease.

3) Patient of abnormal heart beat.

4) Chest pain due to non cardiac problems.

**Observations & Statistical Analysis :**

Total 150 patients were studied. Out of which

(1) 35 are Sattavadhikya i.e. approx. 23.33%,

(2) 53 are Rajadhikya i.e. approx. 35.33% and

(3) 62 are Tamaadhikya i.e. approx 41.33%.

Statistical analysis was done according to percentage method as per statistician.

## **Discussion:**

- This was a survey study.
- This study shows that the percentage of coronary artery disease patients is more in Tamogunadhikya than Rajogunadhikya than Sattvadhikya.
  
- Sattva,Raja & Tama people have different life style,dietary habits.
- Sattva pradhan people prefer vegetarian food while Raja & Tama pradhan prefer non vegetarian food which increases cholesterol level which increases risk of CAD.
- Stress & Manas Bhavas (Sattva/Raja/Tama) are related.Stress and heart diseases are related. Sattva pradhan people manages stress in a better way than Raja & Tama dominant people.
- Charaka has mentioned Atichinta is one of the main cause of Rasavahastrotodushti. Hrudya is moolsthan of Rasavahastrotas. So Atichinta causes Hrudvaigunya.(Ch.Vi.5/13)
- In Astang Hrudya;it is mentioned that Atibhaya causes Vyan Vayu prakopa & Hrudya is sthana of Vyana Vayu.So it leads to Hrudroga.Atibhaya & Ati Krodha also causes Pitta & Vata Prakopa. (As.H.Ni.16/23). In Charaka it is mentioned that Atibhaya & Atikrodha causes Sadhak Pitta Dushti which leads to Hrudroga Samprapti.(Ch.Su.S 12/12).

## **Conclusion:**

- This study shows that Sattva guna dominant people are less prone to coronary artery disease and Tama guna dominant people are most prone.
- This study shows that CAD patients of combination of Sattva with Raja & Tama are less than Tama & Raja combination

## INTRODUCTION:

Ayurveda is the ancient science of life being practiced since time immemorial.

The definition of Ayurveda is:

**Ayurveda is the science of life (Ayu) and its treatment (Ved) (Sushruta Samhita, 1/623)**

Ayurveda deals with Ayu (life).

Therefore research done in the field of Ayurveda gives emphasis to health prophylaxis along with the treatment.

The aim of Ayurveda is

**Pranaharasya svasthya svasthya rakshana,**

**Aatunasya ivakar pSamhita ca. 30/26**

i.e. Ayurveda helps in treating a diseased person and also maintaining the health of a normal individual.

**VX Xmi g\$ndm` nY` CA` Vol&**

**VoEVo\_Z: earaYrdm&gw gy. 1/31,34**

Diseases are defined as which on conjunction cause pain. These are located in mind and body.

Raja and Tama are two Doshas of the Mana (mind). In Ayurvedic system of medicine, predisposition to a disease as well as selection of a preventive and curative regime is primarily based on the assessment body constitution termed 'Prakruti'. Prakruti of an individual is based on the dominance of any single or a combination of two or three Doshas (Vata,Pitta,Kapha) and Manas Bhavas (Sattva,Raja,Tama) which are not only genetically determined (Shukra Shonita), but also influenced by season (Rutu), maternal diet and lifestyle (Matur Ahara Vihara), and age of parents and female reproductive system (Kala-Garbhshaya).

Ayurveda divides persons according to Prakruti. They are of two types:

- Sharir Prakruti
- Manas Prakruti.

Sharir Prakruti belongs to Vatta, Pitta, Kapha and Manas Prakruti belongs to Sattva, Rajas and Tamas.

### **अथ मनस्य दोषाश्चतस्रः १, ४२**

Rajas and Tamas are considered as the two Doshas of the Manas (mind).

Sattva: It is illuminating, pure or good quality which leads to clarity and mental serenity. Sattva is full of love. Sattva is light, light giving full of knowledge.

Rajas: Rajas is quality of mobility or activity which makes a person active and energetic, tense and wilful.

Tamas: Tamas is dark and restraining quality which obstruct and counteracts the tendency of rajas to work and of sattva to reveal. Tamas is full of destruction. Tamas is heavy, covering and obstructing light.

In spite of this different nature they help mutually in creation. The quality of Sattva leads towards the divine and Tamas towards the demonic while in between these two Rajas stands.

### **अथ मनस्य दोषाश्चतस्रः**

### **अथ मनस्य दोषाश्चतस्रः**

### **अथ मनस्य दोषाश्चतस्रः १, ४२**

Worries have always been a constant companion of human life. Acharya Charaka while explaining about sadatura (constantly ill person) says that worries are the main reason of a constantly ill person.

EVrzd {dYnMnř nW` rQ\_ni \$ZfdVo&

JO\$ghnř?BdrnřFrř-ghgrřM {d\_ř {V &M. gy 7/29

In the above shloka the Charaka says that one who indulges in activities which are above ones performing capacity, puts too much strain on oneself in excess perishes like a lion trying to drag an elephant. i.e., putting too much of stress on a system leads to disastrous effects on the body.

According to the Oxford medical dictionary, stress is a state of affair involving demand of physical and mental energy. It is a condition, which can disturb normal physical or mental health of an individual.

## SELECTION OF TOPIC:

CAD is frequently increasing now a days. It is one of the main reason of cardiac deaths. Stress is one of the main predisposing factor of CAD.

State of Mana is related to stress. For years it has been common knowledge that people who are under stress have an increased risk of heart disease. How people respond to stress may be more important than the stress itself. People respond according to their Manas Bhavas. In recent years, we have learnt a lot about stress and heart disease. When we refer to “stress,” we are often talking about two types of stress: physical stress, or emotional stress.

Atherosclerosis can affect adolescents in our society. Because modern drug therapy will almost certainly neither cost effective nor medically appropriate in primary prevention in younger population, intensive life style modification to reduce coronary risk due to lipid disorder become a social priority.

Cardiologists have also mentioned different Manas Bhavas like anger, stress which are causes of CAD.

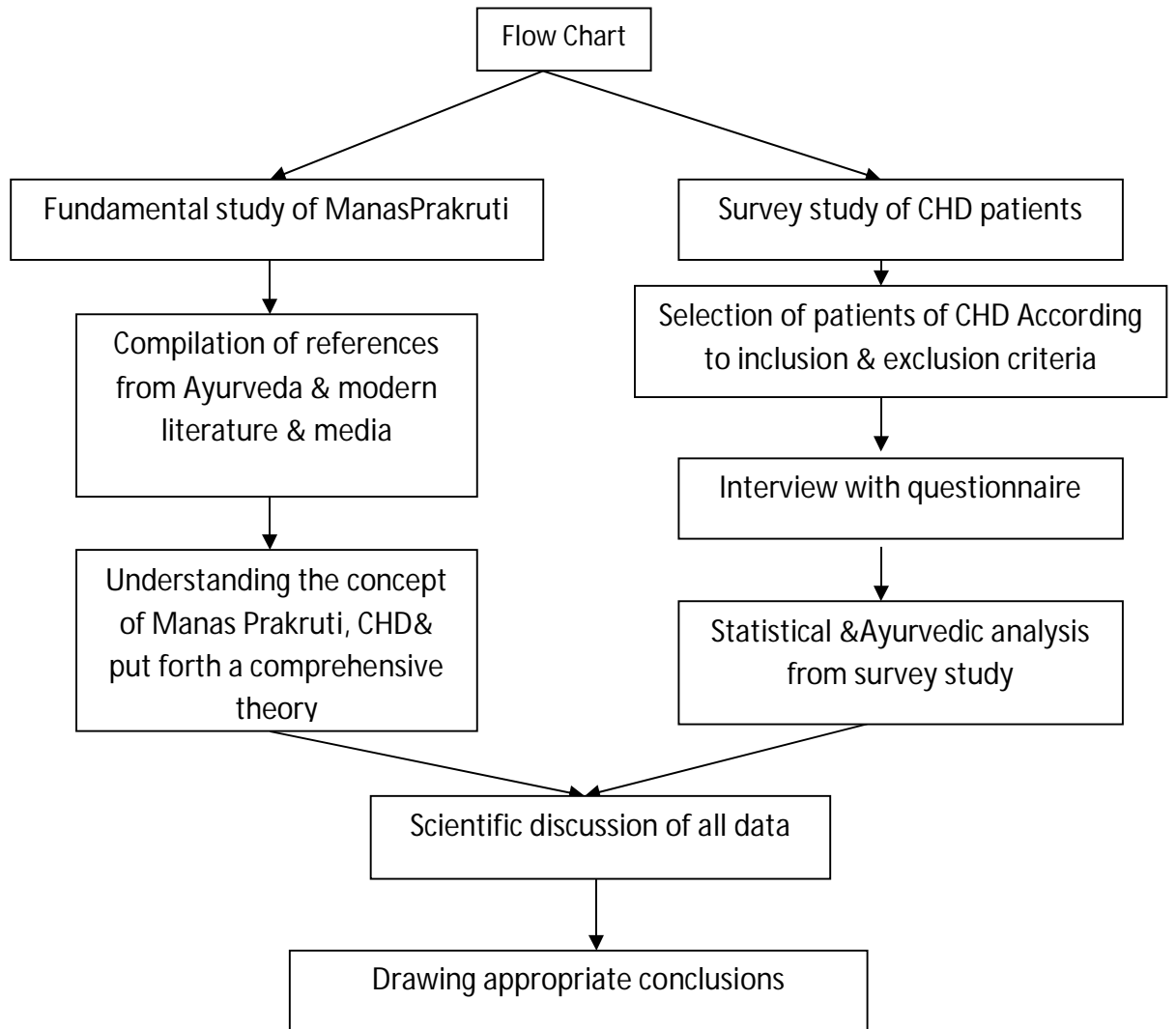
Modern Psychologist Roseman & Friedman have defined “Type A behaviour pattern which is “coronary prone” & “standard risk factors” for CAD. Type A behaviour confers an overall two fold risk for coronary artery disease independent of other traditional risk factors assessed. “Type A” behaviour syndrome is characterized by extremes of competitiveness (jealously), striving for achievement (greed), hostility. Aggressiveness (anger), impatience, restlessness, feeling of being under pressure of challenge & responsibilities.

A lot of research work on CAD has been done in modern science as compared to ayurvedic science but research on relation b/w Manas Bhavas & CAD has been not done.

Also Manas Bhavas have influence on heart & their role in manifestation of Hrudroga. So this topic has been selected.



## PLAN OF WORK:



## **REVIEW OF PREVIOUS WORK DONE**

- 1) Pshyctic constitution & its association with certain cardiovascular disease-  
Dissertation by Dr. Pandey Jamini in 1976 in BHU.
- 2) Course, complication & prognosis of certain CVS disorder in relation to different  
body type-Dissertation by Dr. Dixit RR in 1979 in BHU
- 3) Clinical approach for diagnosis & treatment of IHD based on Indian medicine by  
Sharma & Tripathi in 1984 in BHU.
- 4) Study of prevention of cardiovascular disease through ayurvedic regimen-  
Dissertation by Dr. Chauhan Yeswant in 1989 in BHU.
- 5) Clinical study in patient of Hrutshula & management of it with Rasona Kshirpak  
by Dr. Verma R.K. in 1994 in BHU.
- 6) Hrutvivechana by Dr. Tiwari D.N. in 1983 in NIA, Jaipur.
- 7) Hrudroga Chikitsa by Dr. Sharma in 1984 in NIA, Jaipur.
- 8) Correlation between myocardial infarction & deha prakruti by Dr. Joglekar P.V. in  
1987 in Tilak Ayurvedic College, Pune
- 9) Hrudroga samanya lakshana w.s.r. to modern cardiology by Dr. Chapadgaonkar  
S.S. in 1992 in Tilak Ayurvedic College.
- 10) Management of pain dominating Hrudroga by Dr. Singh in 1987 IPGT, Jamnagar
- 11) Management of Hrudroga w.s.r. to IHD using Jahamohara Khatai Pist in 1993 in  
IPGT, Jamnagar by Dr. Chaudhary & Singh.
- 12) Hrudroga Vimarsha by Dr. Trivedi & Shukla in 1965 in IPGT, Jamnagar.
- 13) Hetu abhyas of Ischaemic Heart Disease w.s.r. to Ahar Vihar & Manas Hetu by  
Dr. Firoj Tamboli in 2004 in BVP, Pune.

14) To study dharniya vega & its role in etiology of Hrudroga by Dr.Rupali S.Purkar in 2004 in BVP,Pune.

15) A) Hrudroga(IHD) & BVC(1996-97)

B) Hrudroga(IHD) & Gold Compound(1996-97)

C) Hrudroga(IHD) & S S Vati( 1996-97)

In Ayurveda Research Institute in Pune under guidance of Dr.P.H.Kulkarni

## **REVIEW OF LITERATURE:**

### **HISTORICAL ASPECT:**

#### **1)Pre Vedic Period:**

No literature is found but ancient Egyptian Mummies give evidence of coronary occlusion & myocardial damage.

#### **2)Vedica Period:**

This time period was from 6000 to 4000 B.C. There is very less knowledge is available in Samveda & Yajurveda but Rugveda gives only historical stories regarding medical. Atharava Veda gives more detailed description as supposed origin of ayurveda.

1.Hrudamaya

2.Hrudroga

3.Hrudruja

Above terms are used in Vedas. Rugveda refers to various diseases including Hrudroga (10/163), curing of disease by rays of sun(1/50,2/13) & by medicines like somraji(10/17-18) & water(10/137-6,1/23-19). Atharava Veda states that Honey is a good medicine for weak heart(6/24,1-2),efficiency of sunlight for curing diseases(6/91.3)

#### **References:**

1. Eradication of heat disease from heart(2/33.3)
2. Worm infestation in heart(2/32.2)
3. Prescription of plant in preventing heart diseases(8/7.17)
4. Chandogya upnishada –arteries of heart(8/1-6)
5. Bruhadhranya-Upnishada arteries of heart(2/1.19,4/2.3,3.20,5/3)
6. Mandukopnishda(2/4,8,9), Vayupurana(97/49,15/6),Agnipurana(370/16,17)

Yogashastra also explained the word Hrudya & related concepts in brief.

### **3) SAMHITA PERIOD:**

This period was from 1000B.C to 600 A.D. There are various references in Samhitas.

#### **A) CHARAKA SAMHITA(1000 BC):**

Acharya Charaka was the first who defined the details of etiology,pathogenesis,manifestation & management of Hrudroga with five types. It refers to etiological factor (Su.17,30,32,34,36,37,Chi.26/77),Symptoms(Su. 17/31,33,35,36,39,Chi.26/78-80),about five types (Su.19). Pathology & treatment (Chi. 26/81-103), Arishta of Hrudroga(Ind. 6/5-6,10/4,9,10), Classification in five categories is ( Su.17/6) based on tridosha theory & krumi, Useful concept & importance(Su.30/3), Effect of physical & mental trauma to Hrudya as well as principle of safety with the importance of the organ in marmatraya(Si.9/3-10),Avrutatwa & Hrudroga(Chi.28)

#### **B) SUSHRUTA SAMHITA(1000 BC)**

Acharya Sushruta explained four types of Hrudroga in Ut.43. Sushruta did not explain Sanipatika separately but takes it as earlier stage of Krumij Hrudroga. A typical disease entity named as Hrudshula is mentioned by Sushruta in Gulma(Ut. 42/131,132)

#### **C) ASTANG SANGRAHA & ASTANGA HRUDYA**

Both are followers of Charaka & mentioned the same clinical feature (Ni 5/39-44),treatment (Chi.6/54-57),classification(Ni.5/38),Hrudshula(Chi. 6/54-57).

#### **4. MEDIEVAL PERIOD(6<sup>TH</sup> Century A.D to 17<sup>th</sup> Century A.D):**

Yogratnakar discussed the effect of injury to the heart & emphasized the constant effort for protection of heart, particularly from morbid effect of Vata. Use of medication & therapeutic measures for the purpose of preserving the vital organs are also stated. Madhava, Sharangdhara & Bhavaprakasha followed classical texts.

#### **5. COMMENTATOR:**

Chakarpani (11<sup>th</sup> century A.D.) considered the symptoms of heart disease as updravas. Dalhana(12<sup>th</sup> century A.D.) differentiated heart pain from Hrudroga & Gulma. Indu(11<sup>th</sup> century A.D.) & Gangadhara (19<sup>th</sup> century A.D.) considered the severity of pain particularly in Vatika Hrudroga & cleared the controversy regarding sankhyasamprapti of hrudroga in different samhitas.

Bhaishajyaratnawali (18<sup>th</sup> century A.D.) gave the regime for Hrudroga & prescribed various rasa aushadis. Gayadasa & Jejjat (11<sup>th</sup> & 17<sup>th</sup> century A.D.) separated the symptoms of tridoshaja Hrudroga mentioned by Sushruta.

#### **6. RASASHASTRA:**

Rasratansamuchya, Rasaragini, Rasendrasarsagra & Rasrajdipika all suggested different compounds of gold, silver, bronze, mercury, mica, pearl, kasturi, sulphur etc. but no one of them added new concept to the diagnostic approach.

#### **7. JYOTISHA-SHASTRA:**

Tion kumbharashi as Hrudroga prone Rashi Jataka parji mention that if sun /moon are present in Shatrukshetra, cause of Hrudroga.

## HRUDYA (AN AYURVEDIC VIEW)

The word 'Hrudya' in Ayurveda is synonym for the word heart. Hrudya is derived from two verbs:

'Hru' means bring back forcibly and

'Da' means which give or donate.

The Hrudya thus means an organ which draws fluid including blood from all over the body and then supplies it to all parts of body. The heart is a vital organ and if affected, may cause sudden death.

Siras (head), antaradhi (trunk), bahu (upper limbs), sakthi (lower limbs) are briefly termed as 'Sadahgam'.

taccā YaDÈga4 SaakaaEcatarsaaçmaOyañj camāVñz NŠhr [ita |(saE Saa-5)

iSaraçotaraiOaOabāah ŠaiWqanalita samaasata:|

YaDÈgamÈga,.....(A---Saa-3)

Mastaka (vault of skull), udara (abdomen), pristha (back), nabhi (umbilicus), lalata (forehead), nasa (nose), cibuka (chin), vasti (urinary bladder), griva (neck) are the single organs of Pratyahga. Kama (ears), netra (eyes), bhru (eye brows), sahka (temples), arhsa (shoulders), ganda (cheeks), kaksā (axillae), stana (breasts), vanksana (groins), vrsana (testes), parsva (sides), sphik (buttocks), janu (knees), kurpara (elbows), bahu (upper arms), uru (thigh) are paired organs of pratyahga. Twenty fingers and srotases (13 internal channels; 9 external orifices of male and 13 external orifices of female) are included in Pratyanga vibhaga.

Ata: par NyaÈgaina vaYatnaE mastakadrpaE naaiBal alaaTnaasaicabakwai stagaiva [tyataa

ekka: kNaaBaŠE KaasāNDk wastanaDNaNaVaNaEvaš fñj anaku parbaah tpaBaEyaao

ÓcivaSáitarÉgalaya, s-ataaSaivaXyamaNaaina, eYa patyaÉgaibaBaaga {Wta: ||(saE Saa- 5)

**I) AS A PART OF PRATYANGA**

Hrudya is a part of Pratyanga. As above mentioned pratyangas comprise on tvak - sapta tvak- avabhasini, lohita, sveta, tamra, vedini. rohini and marhsadhara); kala (saptakala - marhsadhara, raktadhara, medodhara, slesmadhara, purisadhara, pittadhara and sukradhara); dhatu (sapta dhatu - rasa, rakta, marhsa, meda, asthi, majja and sukra); mala [mutra (urine)], purusa (faeces), and sveda (perspiration); dosa (vata, pitta and kapha), yakrit (liver), pliha (spleen), phupphusa (lungs), unduka (caecum), Hrudya (Heart), asaya (amasaya and pakvasaya), antra (intestine), vrkka (kidneys), srotas (external orifices) kandara (tendons), jala (retinaculam), kurca (bunches of fibres), rajju (bundles), sevani (sutures), saiighata (junctions), simanta (bony ends), asthi sandhi (bony joints), snayu (ligaments), marina (vital points), sira (veins), dhamani (arteries) and yogavahi srotas (nerves).

tasya paa: saKyaanaA tvaca: kxi aa Caanavaaonl aa daka yakRi al hanaaOfE fisa {NDkuaO

=dyamaSaya: Aan-aaNa vaRkvaSaataaSa kNDra jaalaina kcha\_rj j ava: saanya: sacÉataa:

salmantaa Asqalina sanOaya: s-ayava: pasyaacomaNa isara Camnyaaqaava haaina s-ataaSa lca |(saE Saa- 5)

Vagbhatacarya has mentioned the names of aksi (eyes) and Hrudya (heart) in the first and second place respectively while dealing with the pratyahga vibhaga.

.....patyaÉgaMasyaaiX=Byaaidkma\ (A - hRSaa- 3)

**II) AS A KOSTHANGA**

Hrudya is mentioned as one of the organs of kosthanga (one of the viscera of the body). According to Charaka fifteen kostanga have been mentioned. These include nabhi (umbilicus), Hrudya (Heart), kloma (oesophagus), yakrit (liver), pllha (spleen), vrkka



(kidneys), vasti (urinary bladder), purisadhara (pelvic colon), amasaya (stomach), pakvasaya (intestine), uttaraguda (rectum), adharaguda (anus), ksudrandra (small intestine), sthulantra (large intestine) and vapavahanam (omentum).

pa-cadSa kvaEgaaina; taQaa – naaBaEcaWl aad ca, yakEca, pl alha ca, vaRkaOca,

vaiStaEca paCivaQaarEca, AamaSayaEca, paWkvaSaayaEca, { \$argadEca} AQargadEca} XadIn-aEca}

sqalIn-aEca} vapavahnaEca || (ca-Saa-7)

Acharya Vagbhata has also mentioned the names of most of the above organs as kosthanga.

kvaEgaaina isqataanyakubEyaWl aad fEfsama\

yakEca pl alhaDkvaRaaBaInBaan-avastaya: || (A-hRSaa-3)

### III) AS AN INNATE PART OF KOSTHA

The visceral organs collectively are considered as “kostha”. Acharya Susruta has mentioned that, amasaya (stomach), agnyasaya (duodenum), pakvasaya (intestine), mutrasaya (urinary bladder), rudhirasaya (receptacle of blood), **Hrudya (Heart)**, unduka (caecum), and phupphusa (lungs) are to be called together as “**kostha**”.

sqaananyaamaignapaWkvaanaEca rjiQarsya ca |

=EADk: fEfsaEca kvaE [tyaiBaQalyataQ] (saEica-2)

#### IV) AS PRANAYATANA

Hrudya is one of the organs of pranayatanam. Pranayatanam is also called as jivitadhamam. "Ayatanam" means resting place and "dhamam" means residence. These are the resorts of life. There are ten pranayatana or jivitadhama situated in our body. These are murdha (head), kantha (throat), Hrudya (Heart), nabhi (umbilicus), gudam (anus), vasti (bladder), ojas, sukram (sperm with semen), sonitam (blood) and marhsa (muscle). Out of these the first six organs are said to be "Marma"

. dSaa pañNayatanaina; taOqaa – maha\_kNz:; =dyaNvaiBa; gaduMasita; Aaja;

SakuSaibataNvaSañhita | takuTaTpataniNa mamsaKyataaina |(ca-Saa-7)

dSaa jalivataQamaina iSaracsanabanQanana\

kNzasaNvyaNvaiBaista: Sakuñasal gadma\|(A-hRSaa-3)

#### V) AS A MADHYAMA ROGA MARGA

There are different courses of spreading of Doshas in Samprapti that is continuously happening in the srotomaya deha. Three "rogamargas have been mentioned.. Roga marga means the paths of diseases or channels of diseases. These roga margas are - Bahyarogamarga (external path of diseases), Madhyama roga marga (middle path of diseases) and Abhyantara roga marga (internal path of diseases).The madhyama roga marga (middle path of diseases) includes Murdha (head), Hrudya (Heart), vasti (urinary bladder) & other Marmas and asthi sandhi (articulations of asthi) with their related tendons.

maOyaañahEyaastyadlina mmayaisqasanQaya: |ta-aañahaQaEca s-ayaiSarakNDradya: (A-saAa22)

iSarabEyaastyaidmamaNyasqañcal sanQaya: |

tainnahaQa: isaras-ayakNDraQaEca maOyama: ||(A-hRSaa-12)

## VI) AS ONE AMONG THE TRIMARMA

Vasti (urinary bladder), Hrudyā (Heart) and sira (head) are called Trimarma. There are a total of 107 Marmas in our body. Out of these the three major marmas are considered in the "Trimarma" group.

saptasārīnā Sataśyāntī Sārsākyāmi Cakīrya tasya |

mamāi Na vai sta Vyāsarī Eca paāna Batahina vacinta taj &aa: ||(ca- ica- 26)

mamāi Na naana māsaras- aayvaisqasainasainapaata:; taksvaavata: eva iva Sakata paāna: ita/zinta |(sa Saa- 6)

maryantalita mamāi Na |(sa Saa- 6 DīhNa Tikā)

## VII) AS A MATRJA BHAVA

Matrja means maternal. Bhava means existence or innate property. The mrdu (soft) parts like mamsa (muscle), sonita (blood), medas (fat), majja (bone-marrow), Hrudyā (Heart), nabhi (umbilicus), yakrit (liver), pliha (spleen), antra (intestine), guda (anus) etc. are matrjabhava (origin of maternal innate property):

masāidhatam dōj j aha Bai Bakīpī alha- agadpa Bafāina māna māta Rāina |(sa Saa- 3)

taōqa – tvakīca laibtaīca māsaīca Eca naī Ba Eca = dyaīca Wī aca yakīca

pl alha ca vaīka ca baīsta Eca paī Vāānaīca māsaīca paīkīca Saīya Eca saī gādīca Qar gādīca

Xadīn- alcaīsqā Lān- alcaīvāpa ca vāpāva hnaīca māta Rāina |(sa Saa- 3)

takūmata Rāina māna tvagāī Vtama Saīh dōj j anāī Bahīya mā Saīya Bā Saīya kīpī alha Wī aca an- agadāīna ||

(A – sa Saa – 5)

## GARBHAVIJNANA (Embryology) of Hrudya

### Ayurvedic view-

- 1) Acharya Charaka mentioned Kankayan's view that Hrudya is the first fetal organ to develop (Ch.Sa.6/21.)

iSar: pakamai Bainavata Q itakumar iSar: Baar Oaja: . . . . =dyaimitakva Ekayana kaal hiki Balakx\  
catanaai Qal zanatvaata\| (caa. Saa. 6/21)

- 2) Acharya Susruta quoted Krtavirya's view that Hrudya develops prior to other organs of the embryo itself being the site of Buddhi (Mental faculty) and Manas (mind)- (Su.Sa.3/32.).

gaBasyaihsanavata: pakal V dyaimitak Raval yaadoolmanas Ecasqaanaata\| (saSaa. 3/32)

- 3) Acharya Charaka considered that fetal heart starts pulsating from the third month (Ch.Sa.6.). While, Susruta considered that the fetal starts functioning from fourth month onwards (Sh.Sa.3.)
- 4) Acharyas of Ayurveda considered Hrudya as Matrjabhava(organ which is maternal in origin) - Su.Sa.3/33.)

masaBabhataM. =d\ . . masBabhataPaina || (saSaa. 3/33)

According to Sushruta heart appears in Garbha in the fourth month ,according to Vagbhata it appears in second month while according to Charaka its 3<sup>rd</sup> month. At the time of garbhadharna;chetana enters in the body.(Ch.Su.30 & Su.Sh. 4/35). So as per Shatkaryavad ;Hrudya should be there. Hrudya is Matruj avayava(As.S.Sh. 2/17) and related to heart of mother. Hrudya is produced from the prasad bhaga of shonita & kapha of foetus.(Sh.Sh 4/31). Foetus gets its nourishment from Ahararasa of its mother. Foetus

receives ahararasa of mother via mother's heart ,apra ,nabhi into the garbha's Grahani. Garbha kayagni acts upon that because of Vata & it spreads all over the body.(As.S.Sh.2/17)

From foetal circulation each dhatu gets nutrition. In this way mother ahararasa converted into foetal shonita & mansa creates heart. The ahararasa travels further & creates nutrients of different dhatu of garbha. Hrudya is made up of Mamsa & shonita prasada. Hrudya has Kapatikas inside valves & membranes. Rasavahi siras & Dhamanis are related to Hrudya.

### **Modern View:**

Human heart develops from a simple tube like structure to the full fledged four chambered structure with septal valves and vessels by about 3rd week of fetal life. Several processes such as turning, twisting, septal formation, bulbus involution etc., takes place between the fifth and eighth week of intrauterine life. By fifth week, the heart tube assumes an "S" shape. The conducting system of heart can be identified by the mid of sixth week of intrauterine life. Around eighth week heart assumes its familiar configuration and the interventricular septum also closes.

Heart commences to beat prior to the development of conducting system and circulation is established before a complete vascular mechanism has been laid down. Generally, heart begins to beat at the end of third week. Nerve invades the heart at the end of fourth week and the S.A. node is well developed by the third month of fetal life.

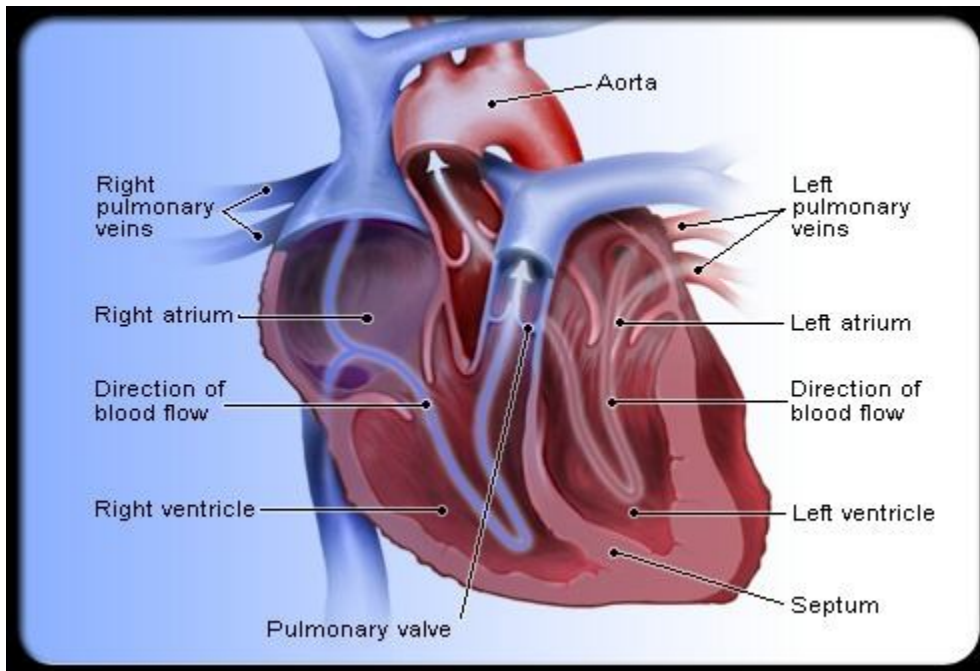
### **Corelation between ayurvedic & modern perspective:**

From the above discussion it is evident that Hrudya (heart) is among the first organs to develop during the intrauterine life. The pericardial cavity can be identified before the head fold is formed or while it is in the process of formation at a stage when embryo possesses only two somites.

The hypothesis of Acharyas proposing development of all the organs at the same time is correct since, the entire development of heart is completed between 21st and 40th day of embryonic life within a span of 20 days. During this part other organs will also develop. The basic development of heart occurs between the second and ninth week of embryogenesis.

Acharya Susruta's view about the development of heart as the purest essence of Rakta and Kapha appears to be more rationale. According to modern embryology heart develops from the angioblastic tissue and the first heart forming cells appear as irregular clumps and strands in the cephalic portion of the human embryo between the endoderm of the yolk-sac and splanchnic mesoderm i.e., the heart and the blood vessels of the embryo arise from angioblastic tissue, differentiated from the intra-embryonic mesoderm.

## Anatomy Of Heart:



### Location & size of heart:

Heart is a hollow muscular organ of a somewhat conical form; which is slightly larger than a closed fist and lies between the lungs in the middle mediastinum is closed in the pericardium. Heart is approx. 300-350 gm. in weight. Heart is almost same size of a person's closed fist. Heart is around 12cm long, 9 cm wide & approx. 6cm thick. Heart rests on diaphragm near middle of thoracic cavity in space called "Mediastinum". It extends from sternum to the vertebral column between the lungs. Heart lies around 2/3<sup>rd</sup> towards left of midline.

Apex of heart, the pointed end of heart is formed by tip of left ventricle & tilts towards the left hip. Base is wide upper & posterior margin of the heart. Base is formed by atria mostly the left atrium.

Pericardium is a triple layered bag which surrounds & protect the heart.

### **Heart Wall:**

It is formed by three layers.

#### **1.Epicardium(External layer)**

This is outer layer. This is thin & transparent & made up of mesothelium & delicate connective tissue.

#### **2.Myocardium(middle layer)**

This is middle layer of heart. Myocardium is cardiac muscle & responsible for heart pumping.

#### **3.Endocardium(Inner layer)**

This is inner most layer of heart & made up of endothelium overlying a thin layer of connective tissue. It covers valves & wall of heart.



## **Chambers & Valves Of Heart:**

Heart is divided into four chambers i.e. 2 atria (right and left) and 2 ventricles (right and left). The atria and ventricle separated by intratrial and intraventricular septum respectively.

The opening between right atrium and ventricle are protected by tricuspid valve. The left atrium and ventricles are protected by mitral valve. The left atrium and ventricles are protected by mitral valve. The superior vena cave opens into the right atrium. Pulmonary artery arises from the right ventricle and reaches the lungs. From the lungs four pulmonary veins arise and open into the left atrium. The aorta will originate from the left ventricle and branching spread all over the body. The aorta and pulmonary artery are provided with semilunar valves.

## **Blood Circulation through Heart:**

Deoxygenated blood through all body parts come to right atrium through following veins:

### **1)Superior Vena Cava:**

This brings blood from the most part of body i.e. superior to the heart.

### **2)Inferior Vena Cava:**

This brings blood from all body parts inferior to the diaphragm.

### **3)Coronary Sinus:**

This brings blood from most of the vessels supplying to the heart.

The right atrium receives impure blood from large veins from the upper and lower regions of the body. The right atrial blood through the atrioventricular opening passes into the right ventricle. Due to contraction of the right ventricle, the blood is carried to the lungs. In the alveoli the impure blood gives of CO<sub>2</sub> and

takes up  $O_2$  and thereby gets purified. The pure blood from the lungs is carried through pulmonary veins to the left atrium and through atrioventricular opening to the left ventricle. The left ventricle contracts and the pure blood are pumped out to the aorta. The aorta and its arterial branches, which break up into capillaries, carry the pure blood to all the parts of the body. The veins provided with valves into the right atrium carry the impure blood from different regions of the body. The right atrium sends blood to the right ventricle and the cycle is repeated. There are about 5 Lt. blood in a normal adult human body. The amount of blood ejected per ventricle per minute is about 5 Lt. and is known as 'cardiac output'. Heart beats from 70- 80 times per minute, and the amount of blood ejected per ventricle per beat is about 70 ml.

Cardiac muscle consists of certain specialized structures, which are responsible for initiation and transmission of cardiac impulses at a higher rate than the rest of the muscle. Those specialized cardiac tissues operate such mechanism are collectively known as the junctional tissues of heart. They comprises :

- a. Sinoatrial (S.A.) node,
- b. Atrioventricular (A.V.) node,
- c. Bundle of His (Atrioventricular bundle),
- d. The right and left branches of the bundle - ending in the Purkinje fibers.

## **Rachana Sharir:**

The anatomical aspects of Hrudya have been described in the following manner in the Ayurvedic texts-

### **1)Location:**

Hrudya is situated in thorax region in the chest cavity in between two breast. Vagbhata stated that heart is situated in mid of kostha,Urah & Stanaga.Hrudya is surrounded by organs like Pliha(spleen),Phuphus(lungs) & Yakrit(Liver)...(Ch.Su.S.4/31). Hrudya is also include in Kostangas.(Ch.Sh. 7/10)

### **2)Shape & Size:**

Hrudya resembles like closed red lotus bud. Acharyas also mentioned “Adhomukham” i.e. apex or mouth facing downward.(Su. Sh.4/32)

Adhomukha Padma i.e. shape & size of Hrudya like down faced and closed lotus. In the same manner it has been explained in modern science.

-The Kosha formed by bud petals reflects four chambers. Also in ancient texts they stated Hrudya as “Chaturgarbha” i.e. having four chamber.

-Stem of Lotus is indicative of Aorta & arch of Aorta.

-Apex(downwards) has the capacity to open & close. It reflects the contraction & relaxation. Ancient texts also mentioned Hrudya a piece of

Mansa whose Agra part(apex) is making noise like “Buk Buk”.

-Red Colour reflects coronary artery blood.

### 3)Peshis in Hrudya:

Amashya & Hrudya are having two connected peshis each. Dalhan has defined peshi as mamsa avayava differentiated from each other. E.g. Head & lung both are muscular in origin but separated from each other, either by differentiating material or the organ itself which demark each other, are made up of peshis.

4)The vessels involved in the circulation are of 3 varieties-

i) **Dhamani** - meaning which pulsates (Ch.Su.30.). A Dhamani will pump Rasa & Rakta forcibly- (Pr.Sa. DhamaniKhanda) or which fill up the vessels with Rasadi Dhatus- (Cakrapani-Ch.su.30.). Dhamani is a channel which is modified state of sira which carries different body elements.

They are divided into two types- 1)Urdhwanga 2) Adhoga

Urdhwanga means going in upward direction. These are 30 in no.

ii) **Srotas**- means which secretes(Ch.Su.30). A srotas is one that is permissible to fluids(Pra.Sa.Dha.Kha.) or which secretes PoshyaDhatus (nourishing materials) like Rasa etc.(Cakrapani- Ch.Su.30.). Charaka & Susruta both have considered Hrudya as Moolsthana of Pranvaha & Rasavaha Strotas. Relation of heart, Rasavaha & Pranvaha strotas reflects Pulmonary & circulatory system of modern science.

iii) **Sira**- means which slowly propagates fluid(Ch.Su.30.). A sira is one which will slowly pump the blood(Rakta) towards the heart (Pra.Sa.Dha.Kha.) or which spreads Rasa, Rakta etc. to various parts of the body(Chakrapani- Cs.Su.30). There are two avedhya siras in Hrudya.

**5)Sandhi in Hrudyā:**

According to Sushruta Mandal type of sandhi is present in Hrudyā.

**6)Kandara related to Hrudyā:**

According to Sushruta four Kandara are related to neck, Hrudyā & penis region. These are “Hrudyanibandini”. (Su.Sa.5/11)

## **Kriya Sharir:**

### **1) Origin of word Hrudya:**

The word Hrudya(*Hru-da-ya*) itself indicates its functions i.e.,

- a) circulating Rasa & Rakta throughout the body,
- b) providing nourishment to various Dhatus (tissues) through Rasa, and
- c) to perform Sankhoca (contraction) and Vikshepana (dilatation) to maintain continuous circulation- (SatapathaBrahmana).

### **2)Hrudya Ashrit Bhavpadartha:**

#### **a) Dosha & Hrudya:**

#### **Prana Vata:**

The Vayu which brings continuity in life by nourishing every cell or particle of body. According to Vagbhata; Prana Vayu goes towards Murdha. So indicated by word Murdhagah.(As.Hr.Su.S 12/4,5)

#### **Vyana Vata:**

Vyan Vayu is responsible for body movement especially circulation of Rasadhatu & nourishment of body. Its location is Hrudya. Its sanchara sathan(area of influence) is whole body. The main function related to Hrudya is Rasa vikshepan. Rasa Dhatu is spread to all over body through twenty four dhamanis. It acts in all direction.(As.H.Su.12/6,7).

#### **Udana Vata:**

Udana Vayu is situated in thorax region. It causes speech,energy,memory etc.(As.H.Su.12/5,6)

**Samana Vata:**

Samana is situated near agni. Its main role is in digestion. It is helpful in preparation of Ahara Rasa & Rasa Dhatu. Ahara Rasa & Rasa Dhatu are related to Hrudya.

**Apana Vata:**

Its direction is downwards. It plays an important role in Vegavrodha & Hrudroga.

**Pachaka Pitta:**

Pachaka Pitta is responsible for Sthoola Pachana or digestion. It helps in formation of Aahar Rasa & Rasa Dhatu. Improper Rasa dhatu plays important role in Hrudroga.

**Sadhaka Pitta:**

Its location is Hrudya. So its also called Hrudagata. This is responsible for “Abhipretarth Sadhanat” i.e. fulfil desires expressed by Atma. If there is any disturbance occur in function of Sadhaka Pitta it tends to disturb mind ultimately.

**Avalambaka Kapha:**

It nourishes & gives strength to Hrudya( Hrudyaavalambanam)It increases snigdhatu & sthirta by countering Rukshata & Chalata by constant work. (As.H.Su.12/15,16)

## **Dhatu & Hrudya:**

As we discussed earlier, Hrudya is developed from Kapharakta prasada bhaga. Rakta is directly & rasa, mamsa, meda, majja & shukra being ashraya of kapha, actively participate in Hrudyotpatti. Hrudya has mandal sandhi. So in that mandal Sandhi there are chances of Ruchakasthi. Thus except asthi all other dhatu are directly related to Hrudya while asthi is indirectly related to Hrudya.

### **2) Rasa Dhatu:**

- Hrudya is moolsthana of Rasavaha Strotas.
- By stimulation of Samana vayu rasa is brought to Hrudya.
- Rasa Stays in Hrudya.
- Rasa is circulated to whole body by Vyan Vayu.
- Being Ashraya this also nourishes Avalambak Kapha for Hrudyavalmbana.
- Due to all above reason it has an important role in Hrudroga samprapti.

### **3) Rakta Dhatu:**

- Rakta is main dhatu of Hrudya.
- It is Samvayi karan of Hrudya.
- All sira, dhamani, kanadra are related to heart.
- Rakta is one of dasa pranayatanani.

### **4) Mamsa Dhatu :**

- Hrudya is Mamsapeshichaya.
- It has an important role in evolution of Hrudya because it is Ashraya of Kapha.
- Mamsa has sthira attribute & lepan Karma. These are helpful in Hrudya karya.



### **5) Meda Dhatu:**

- It is not directly related to formation of Hrudyā but it helps in formation of internal structure of Hrudyā.
- Snayu & Sira are two important bhavpadārtha & these are related to heart.
- Snehan karma of medha is necessary for smooth activity of Hrudyā.

### **6) Majja & Shukra Dhatu:**

- Majja & Shukra help in formation of Hrudyā as they are āshraya of Kapha.
- These dhatus help in purana & regeneration process.
- Shukra helps in generation of Oja which has samvayi relation with Hrudyā.
- Vegavarodha of Shukra generate Hruvyātha.

### **7) Hrudyā & Mala:**

Though mala are not directly related to Hrudyā. But suppression of these natural urges creates Hrudroga.

So mala has importance as a causative factor of Hrudroga.

### **7) Oja & Hrudyā:**

Sarbhaga of all dhatus is called Oja. It is spread in whole body. It is carried through ten Ojovaha Dhamanies. Acharya Charaka says that “Dhari Tat Hrudyāshritam” i.e. it helps the life until it stays in Hrudyā. Also prana is situated there. Ashtbindwatmaka oja stays in Hrudyā. (As.H.Su.11/37)

## 8) Hrudya & Mana:

Hemadri defines Hrudya as Mana adhisthana.

Hrudya governs all the Sharira bhavas like :Mana, Atma and their functions, functions of various organs etc (Ch.Su.30.).

YaDĒgamaĒgaNā&aanaimainclĵaalyaqapaĒcakxma\

Aatmaca sagaNaĒcatalĒcantlyaBa\=id saNĒatama\|(ca.saU30/4)

It transports nutrition, vital energy and oxygen to the distant parts of the body as it is the site of Rasavaha, Rakatvaha, Ojovaha and Pranavaha Srotases. All activities like conscious state of the body, the sensory and motor functions, and the voluntary and the involuntary activities of the organs of the body all are dependent of the proper functioning of the heart and predominance of the qualities of sattva and tamas in the Rasa-dhatu an indication of biochemical changes of opposite nature in the blood (Su.Sa.10).

Hrudya is the seat of three Doshas and three Gunas related to body and mind derives its driving force from these basic organizations of life. Vata in the form of Vyana Vata imports moving force; Pitta in the form of Sadhaka Pitta protects it from inertia and fatigue and gives power to match the situations, alertness and consciousness; Kapha in the form of Avalambaka. Kapha prevents wear and tear, conserve its tone and force.

The sattva and pitta refreshes it, makes it responsive, alert and conscious. Rajas and Vata activates it, keep it moving i.e., excitability and tonicity. Tamas and Kapha slow down the heart and produces sleep. They all work in co-ordination for maintaining life. These controlling forces have not yet been identified as some distinct biochemical or hormonal products.

Heart Sounds- The Heart is the seat of Anahat Chakra, presided by Vyana vayu which produces a characteristic sound during its movement (systole & diastole) - (Na.Vi.).

Pulsation- Due to continuous contractions and dilatation of heart pulsation, occur in the Nadis (vessels)-'*NADYA SCALANTYASRIGDHARA YAH SPURANAM TATAH*' - (Na.Vi.)

Mind effects the ability of the heart. Heart is effected in intellectual pursuits and in emotional upheavals like: rage, sorrow, pleasure, pain, fear, anxiety, depression or excitement. That is why heart is considered to be the seat of mind and intellect- '*MANO BUDDHINIVASAH*'(Ch.Ci.26. &Ma.Ni.)

## **Hrudroga Vikrutiviganam (Cardiovascular Pathology)**

### **Nidana or Hetu(Etiology)-**

There are various factors responsible for CAD. These are:

A)Samanya

B)Vishesha

Detailed description is as under-

### **SAMANYA NIDANA (Common Etiology)-**

Excessive or repeated indulgence with the following factors will lead to Hrudya rogas:

AtyaDagavannakxlaayaitaWtaEammaiBaGaataaOyaSanapaSaEga0: |

salvAntanaOagivaOaarNaEca =damaya: paEcaivaOa: paicTYT: ||(ma.ina.)

1. Sharira karanas (somatic factors)- Persons weakened by Jvara and Atisara (fever and diarrhoea), Amasandharana (rheumatism), Karsya (wasting), Mada (intoxication with alcohol), Chardi (vomiting), Vegadharana (suppression of natural urges) etc., will be the predisposing factors 2(Cs.Su.30/30-40 &Ma.Ni.). Niswasa dharana (obstructing expiration) and Baspanigrahana (suppression of tears) will lead to hrudrogas (Ch.Su.7/21.).
2. Manasika karanas (Psychic factors)-Cirita (bother), Bhaya (timid), Trasa (frightening others) etc. (Ch.Su. 17/30-40).
3. Vihara karanas (Behavioral factors)-Ati vyayama (exercise), Srama (strain), Gurubharavahanam (heavy exercise due to carrying heavy weights) etc. (Ch.Su.30/30-40 &Ma.Ni.).

Vihar Hetus causes vitiation of Doshas, Dhatu shaya & Ojokshaya which causes Hrudroga.

4. Ahara karanas (dietetic factors)- Usna and Ruksha Anna sevana (consuming very hot and dry foods), Viruddhasana (incompatible foods), Adhyasana (bulimia), Ajeernasana (polyphagia), Asatmyabhojana (eating allergic food substances), Guru annasevana (eating late digesting foods), Kasaya and tikta rasa sevana (consuming astringent and bitter substances)- (Ch.Su.30/30-40 &Ma.Ni.).

Aahaar hetu causes vitiation of Doshas and agni vicruti which causes Aam Rasa dusti or Strotas abstruction which causes Hrudroga.

5. Chikitsakrita karanas (Iatrogenic factors)-TiksnaVirechana (drastic purgatives), Tikshnavasti (enema with irritants), improperly performed Pancakarma therapy etc. (Ch.Su.30/30-40 &Ma.Ni.).
6. Agantuka karanas (external factors)-Abhighata (injury), Atiucchapatanam (falling from great height) etc. (Ch.Su.30/30-40 &Ma.Ni.).
7. Vagbhata quoted that the etiology of Hrudroga and Gulma are one and same. Hence, they may be studied together (Cs.Su.30/ 30-40 &Ma.Ni.). Charaka also mentioned that Kaphaja gulma leads to Hrudroga (Ch.Ni.3/11.).

## VIKESA NIDANA (*Specific Etiology*)-

The predisposing as well as the causative factors of the individual Hrudroga's are as follows-

- 1) Vataja Hrudroga nidana- Shoka (sadness), Upavasa (starvation), Vyayama (exercise), Suska and Ruksa Bhojana (dry and non unctuous foods), AlpaBhojana (mal nutrition) etc. (Ch.Su.30/30-40 & Ma.Ni.).
- 2) Pittaja Hrudroga Nidana- Usna and Ksara sevana (very hot and strong alkaline substances), Amla and Katu rasa adhika sevana (excessive sour and spicy foods), Atibhojana (polyphagia), Madya sevana (alcoholism), Krodha (anger), Atapa sevana (exposure to sun ) etc. (Ch.Su.30/30-40 & Ma.Ni.).

{YNaaml alavaNaar kxT kva j alNaBa jana0: |  
ma0k0a0atapaCaSa=id ipattapaKoyaita | (ca.saU17/32)

- 3) Khapaja Hrudroga Nidana- Guru anna sevana (heavy foods), Snigdha sevana (more fat intake), Acintana and Acestana (sedentary mental and physical activities), Nidrasukha (excess sleep) etc. (Ch.Su.30/30-40 & Ma.Ni.).

AtyaadanaNyajisna0amcanta namcaiT nama\ |  
inadaSaKaBa\yia0ak\k\F=dagakar Nama\ | (ca.saU17/34)

- 4) Tridoshaja Hrudroga Nidana- It include all the etiological factors mentioned earlier (Ch.Su. 17/30-40 & Ma.Ni.).

htalXaNaSaBa0cyatasainnapaitakx | (ca.saU17/36)

- 5) Krimija Hrudroga Nidana- when a person is suffering with tridoshaja Hrudroga consumes Tila (sesamum seeds ) and Guda (Jaggery) excessively, then he or she may suffer from Krimija Hrudroga. (Ch.Su. 17/30-40 & Ma.Ni.)

i-adakj adu+dagadcatmaina/arataq

itala/alrgaDadlingainqastasyaaj ayataq(ca.sau 17/36-37)

## Ayurvedic review of literature:-

### **Dhamani dushti :-**

1. Dhamanitata / sirasantatah (peripheral vascularization, collaterals).
2. Dhamani pratichaya- (thickening of artery).
3. Dhamani upalepa (Cha.Su.20/17,Ash.Su.20/15.(lipid accumulation ).
4. One of the twenty shleshms vikaar. Dhamaninaam ati purana (excessive accumulation of other material )- Yogindranathsen.
5. Dhamaninam pushtata- Gangaadhar. (Proliferation).
6. Dhamani Lepak –Ka.Su.37-19-42.(Deposition of cholesterol).
7. Dhamani Pravichaya- ch.su.16/84 (sclerosis).
8. Dhamani Vivrutva- asamrutatwam- visrutatwam.- (dilatation ).

### **Initiation of vessel disease in Ayurvedic perspective:**

#### **Hetu-**

aÑÑ vÉliÉqÉliÉîxlÉakÉqÉliÉqÉÉŞÉÇ ----UxÉuÉÉWûîliÉ  
SÒwrÉîliÉ ÍcÉlirÉÉÍÉÉqÉliÉÍcÉliÉÍÉÍÉÉç ||  
ÌuÉSÉWûîliÉ A³ÉmÉÉÍÉÉîliÉ îxlÉakÉÉâwhÉÉîliÉ SiuÉÉÍhÉ cÉ  
|  
UËüuÉÉWûîliÉ SÒwrÉîliÉ pÉeÉiÉÉÇ cÉÉiÉmÉÉÍÉsÉÉæ ||  
cÉ. ÌuÉ. 5/24

Heavy,cold,too oily,large quantity of food,too much stress,acidic food,hot and oily liquid diet,roaming in hot sun and wind initiate vitiation of Rasavaha & Raktavaha Strotas.

#### **Poorva rupa-**

EwqÉÉ iÉjÉÉ xrÉÉSè SuÉjÉÑÈ ÍxÉUÉhÉÉqÉÇ AÉrÉÉqÉ  
CliÉ cÉ mÉÔuÉíÂmÉqÉÇ | (vÉÉâjÉ mÉÔuÉíÂmÉ)

These signs are similar as in shotha like local heat,expansion & swelling.





- 5)Other
  - a)Vepathu
  - b)Chardi
  - c)Sweda

## **Samanya Hrudroga Lakshan:**

### **1)Vaivarnya(Discoloration):**

It is localized or whole body discoloration. Shyava(black) & Aruna(Reddish black) are two vaivarnya mainly in Vataj Hrudroga.

### **2)Murcha(Unconsciousness):**

It is defined as sudden loss of consciousness. Rasa-rakta vikshepana of Hrudyā is hampered in Hrudroga. So proper nourishment to body especially Prana & Pranayātnani is hampered. Hence murcha may occur.

### **3)Jwara(Fever):**

Rise in body temperature is called Jwara. Hrudyā is Moolsthana of Rasavaha Strotas & Rasapradoshaj Vyadhi. So jwara may happen in Hrudroga.

### **4)Kasa(Cough) & 5.Shwasa(Dyspnea) & 6.Hikka(Hiccough)**

These may due to Pranvaha Strotas Dusti. Hrudyā is also considered origin of Pravaha Strotas. So these are seen in Hrudroga.

### **7)Asyavairasya(Change of taste):**

Function of Rasa Dhatu & Vata is hampered in Hrudroga. Proper perception of taste is hampered due to Rasa Dhatu dusti.

### **8)Pramoha(Confusion):**

Pramoha is loss of power of Dyanendriya due to loss of sensory organ & body. This may be due to Prana Vayu vicruti which occur in Hrudroga.

### **9)Chhardi(Vomiting):**

Due to stimulation of vitiated Vyana,Udana & PranaVata; Doshas are removed through mouth from amashya. So chardi may occur.

### **10)Kaphaotklesha(Expectoration)**

This is constant secretion of Kapha in form of Saliva,Spitting etc. Due to vitiation of Prana Vayu it occurs. Udana & Vyana are also responsible for this. So this symptom occur in Hrudroga.

### **11)Ruja(Pain)**

Ruja is due to vitiation of Vata. So chest pain occur in Hrudroga due to vitiation of Vata.

### **12)Aruchi(Tastelessness)**

Rasa vaigunya occurs in Hrudroga. It is due to vitiation of Rasa Dhatu in Hrudroga as Hrudya is origin of Rasadhatu.

### **13)Trushna(Thirst)**

It is one of symptom of Udakavaha strotas dushti. Excessive Vata also causes this symptom which occur in Hrudroga.

## **Vishesha Hrudroga Laxanani:**

Acharya Sushruta described Hrudshula as a separate disease & Acharya Charaka & Vagbhata considered it in Hrudroga. In Laghutrayi it has been mentioned in both ways. So collective sign & symptoms of Vataj Hrudroga & Hrudshula are described.

### **1)Vedana:**

#### **a)Atyatha Vedana (severe chest pain)**

This symptom is due to vitiation of Vata Dosha.

#### **b)Tudyate Hrudtoda (pricking sensation)**

This is specific type of pain. This is irregular. Chala & Sukhsma guna of Vata & Aama is responsible for this.

#### **c)Stambha Hrudshula/ Hrudstabdhta (stopping & arrest of heart movement)**

This is more severe symptom.It may be temporary or fatal.

#### **d)Veshtana Hrudyodveshtana (covering type sensation)**

It means a feel of twisting. Its may be because of vitiation of prana,vyana & udana.

#### **e)Shunayata/Hrudshunyata( feeling of emptiness)**

Its like feeling of emptiness of absence of heart.

#### **f)Darna/Hrud-darna(Tearing/clearing/splitting sensation)**

This is tearing of cloth like sensation. Acharya Chakrapani mentioned it as

“Dardarika”. It indicates sound. So Hrud-darna may be mentioned as “Hrudkampana”.

**g)Hrudadrava(palpitations)**

This is related to heart. Ganghadhar(commentator of Charaka) mentioned it as “Dravasca dha dhak karanam” i.e. it means beating of heart. It is due to sukshama,chala guna of Vata. This function is done by Prana with the support of Vyana. In Hrudshula this function is disturbed due to obstruction of Pitta & Kapha.

**h)Nirmathyate(stirring sensation)**

It means churning or stirring like sensation. Dalhan mentioned this as “Vilodan kriya”.

This kriya is done during preparation of butter milk. This is due to vitiation of chala,laghu & sukshma guna.This is function of Samana with the help of Vyana.

**i)Sphotana(Cracking/bursting)**

This is due to khara,chala,ruksha guna of vata due to vitiation of Vyana & Prana vayu.

**j)Ayamyate/Hrudamaya(stretching or pulling sensation)**

This is due to ruksha & khara guna of Vata due to vitiation of Prana & Udana vayu.

**k)Bhedana/Hrudshula(Sharp or piercingsensation)**

This is ruksha,Khara,sukshama & chala guna of Vata & due to vitiation Prana & Udana vayu.

**l)Shoshana/Hrudshoshana(sensation of dryness)**

This is due to vitiation of vata with Pittaanubandha. Ruksha & khara guna of Vata & teekshana & ushna guna of Pitta are responsible.

**2) Shwasavarodha(difficulty in breathing)**

Inhalation is done with the help of Prana Vayu & exhalation is done with the help of

Vyana & Udana vayu. All these are vitiated due to ruksha & sheeta guna.

### **3)Shabdasahishnuta(irritation due to noise)**

This is symptom of Rasakshaya. Preenan function of Rasa Dhatu is hampered due to which sensory organs don't get their proper nourishment. This sumptom is also due to ruksha & chala guna of Vata.

### **4)Alpanidra(insomnia/less sleep)**

This is due to increase in Raja & decrease in Tama guna which causes unstability of mind. Laghu & chala guna of Vata are responsible for that. Also Rasadusti in Hrudroga is a contributing factor. This is also due to vitiation of Vata & Pitta.

### **5)Manas Bhavas( Psychological signs & symptoms)**

#### **a) Moha(confusion)**

It is due to loss of perception of Indriyas.In this Prana Vayu loses control on Indriya Dhruti. This is due to improper nourishment of Indriyas & vitiated Vata in Hrudroga.

#### **b)Akasmat Deenta(sudden depression/Sadneess)**

It is onset of sadness,fear or depression. Patient's mind is unstable. Hrudya is the site of Sadhak Pitta which is responsible for proper perception. Ojokshaya also occurs. These factors causes fear of death due to chest pain & breathlessness.

#### **c)Shoka & Bhaya:**

Due to vitiation of Vata,Sadhaka Pitta & Rasakshaya; Manas Bhavas like Shoka & bhaya are generated.

### **6)Vepathu(tremors)**

This may be due to vitiation of Vyana Vayu which is responsible for movements. This is due to Chala & Laghu Guna of Vata. This is also may be due to Rasa kshaya.

### **7) Sweda & Chardi (vomiting)**

These symptoms are due to vitiation of Vata Dosha.

#### **Hrutshula:**

Acharya Sushruta has mentioned Hrutshula in a very specific manner. Charaka & Vagbhata included Hrutshula in Vataja Hrudroga. Bhavprakash, Vangsen & Yogratnakar explained separately. As per Bhavprakash it is due to Kapha pittavrudha Vata which causes vitiation of Rasa. Vangsen described it as "Rasamruta Sambhava".

#### **Hetu**

a) Similar like Vataja Hrudroga

b) Kapha Pitta avrodha

c) Rasadushti

#### **Hrudashula Symptoms**

a) Severe chest pain. It may be localised or radiating.

b) Acharya Vagbhata has mentioned some shades of pain related to diet as

- Pain increases with meal, decreases with digestion & subsides at the end of digestion.

- After meal increases & decreases in empty stomach.

- decreases or subsides after complete digestion as mentioned by Charaka.

#### **Uchhwasavardha-Shwasavrodha:**

It includes:

1. Difficulty in expiration
2. Difficulty in inspiration

These symptoms are seen in Hrudroga due to vitiation of Vata Dosha.

### SAMPRAPTI OF HRUDAROGA:

Samprapti means pathophysiology of a disease.

yaqaa d'U na d'akaa yaqaa caanaivasapataa |  
 inavaittar amasyaasaa sapaitaj aaitaragaita || (maa. ina. 1/10)  
 kupaanaa Na d'akaa Na Sa Ir qair Qavataana |  
 ya-a saD.ga: Ka vaajyaata vyaaista-aa j ayataa | (saUsaL24)

Acharya Sushruta & Acharya Madhavkar have mentioned Samprapti of Hrudroga.

### Hrudroga Samanya Samprapti

d'yalyatvaa rsal d'aa: ivagana d'yalyatva: |  
 kuinta = dyadhaa d'aga Na paataa | (saUs. 43/2)  
 ivagana: kupaata: | (maa. ina. 29/2)  
 d'yalyatvaa rsaimaita rsasya = dyaaEatvaata | (maa. ina. 29/2)  
 = d'agaimaita vaacya gadaa gah Na Na D'akaa Baadha baadha valca-ya&apanaaqa\_\_  
 baadha Sabdha caa-a naanaivaDaa palDiba j ajj aT: BaDgavata palDa [ita gayadasa: |(maa. ina. 1/2  
 Tikva)

k'Rsna d'ayava caaipa ya-aa kupaataa BaSa |  
 d'akaa vakar Naaisa maava\$-a valaita || ( saUsaL21/20)  
 sa eva kupaataa d'akaa samtganaivaSakata: |





Bhaya ,Shoka, Krodha & Chinta produce Kshaya of Rasadhatu & Oja residing in Hrudyā. Rasadhatukshaya leads to Kshaya of subsequent dhatu. This leads to Dhatukshayajanya Vata Prakopa.

**Bhaya:**

Bhaya means fear or phobia. Fear causes imbalance between normal activity of sensory organ & Dhi,Dhruti & Smruti.

Bhaya→Disturb mind (Tama)→imbalanced function of sensory organ +Vata vitiation →Hrudya Roga.

**Chinta:**

It is defined as worry or anxiety. If this happens repeatedly then sleep can get disturbed. Hrudyā is seat of mind. So it may causes bad effect.

Chinta→ Disturbed mind→ insomnia → excessive use of indriyas→ Hrudroga

**Shoka:**

It is defined as sadness which tends to cry. Increase in Raja creates this state.

Shoka→ Raja vrudhi+Vata Vrudhi Body imbalance→ Hrudroga

**Trasa:**

Its also called worry. It may be physical or psychological.

Trasa → Disturb mind increase in Vata→ Disturbance of body function→ Hrudroga.

**Agnimandya & Aamvichar:**

[Yaa Bayak Xatara laDara]gdyainapaliDtara |

paiddVayalltara ca saayamaanannaNaIsanyak pairpaakmaiba || ( saUsaL46/508)

Manshik Vikar of krodha etc. produce Agnimandya & Aamotpatti. Aamrasa produced

creates Hruddaya vaigunya. Thus Vega lead to Doshaprapaka,Dhaukshaya,Ojakshaya,Rasavahasrotodusti resulting in Hrudroga.

ÌiÉsÉ¤ÉiUaÉÑQûÉSÏiÉ aÉëiJÉxiÉxrÉÉãMéÉÉrÉiÉã|  
qÉÉÇxÉiMüSãvÉã xÉÇYsÉãSÇ UxÉ¶ÉÉxrÉÉãMéÉãÉcNùiÉ ||  
cÉ.xÉÔ.17/37

qÉÉÇxÉiMÉhQûÇ qÉÉÇxÉÉXèMÑüUæUÉÍcÉiÉvÉÑuÉxì®qÉÇ |  
xÉÑ.iiÉ.11

oÉÉ½ÉÈ ÍxÉUÉÈ mÉëÉmrÉ rÉSÉ MÜTÜÉxÉxMç  
ìmÉ´ÉÉiÉ xÉISÖwÉrÉiÉiWû uÉÉrÉÑÈ|

iÉæÈ oÉ®qÉÉãÉæiÈ xÉ iÉSÉ ÌuÉxÉmÉiÉÇ  
EixÉãKÉísÉXèaÉqÉÇ µÉrÉjÉÑÇ MüUÉãiÉ|| cÉ. ÍcÉ.12

Bahya sira is vitiated by kapha, asruka, pitta and vayu. It blocks the way (baddha maarga) of circulating Rasa & Rakta. These dosha migrates (visarpana) in the body resulting formation of utseda of sira.

Symptoms of Heart diseases are ruja (angina), vepathu, veshtana (congestion), stambha (stenosis), pramoha (conductive disorder), shunyataa (emptiness), klama (weakness), trishnaa (thirst), murchaa (faint), bhrama (vertigo) sweda (sweat), sputi (ischemia), stimita (block), tandraa (trance), aruchi (loss of taste), ashmavrita (infarct).

## TYPES OF HRUDYA ROGA:

### 1) VATAJA HRUDROGA:

Its due to vitiation of Vata Dosha. Its symptoms are Vephatu( generalized or localized tremors) ,Veshtana (sensation of tying at the site of Hrudyā or twisting sensation), Stambha (restricted movements), Prahmoha, Shunyata (to experience emptiness at the site of Hrudyā or emptiness of Mana), Dara( specific kind of sound) & Jeere Chatyatra( pain that aggravates after digestion) are the symptoms of Vataja Hrudroga.

Saakṣaṁ vā asavya āmarjāḥ Saakṣaṁ vā | paBaḥjanaḥ |

vaayaḥ caiva Sya = dyaḥ | ahayatyāḥ samaḥ | jīamaḥ | (ca. saU17)

vaayaḥ caiva Sya = dyaḥ | ahayatyāḥ samaḥ | jīamaḥ |

hid vaataataḥ ca | paḥ | Naḥ caatyāḥ caḥ naa || (ca. saU17)

=cChyaBaava dīva Saakṣaḥ stambha: samaḥ: pavanaad'iva Saakṣaḥ | (ca. ica. 26)

Aayanyataḥ ca | taj aḥ | dyaḥ | Otaḥ caḥ |

inamāyataḥ ca | lyataḥ ca s'f' | dyaḥ | Otaḥ caḥ | jīamaḥ || (saU. 43/6)

### 2) PITTAJA HRUDROGA:

Its due to vitiation of Pitta Dosha. Its symptoms are Hriddaha (burning sensation at the site of Hrudyā), Tiktata Vakre (bitter taste in mouth), Tikta-Amlodgeerana (pouring out of Tikta & Amla Rasa in the mouth), Klama ( Fatigue without exercise), Trushna, Murcha, Bhrama (feeling of rotation), Sweda (sweating), Tama ( darkness in front of eyes), Duyana ( bodyache), Santrasa (to fear), Tapa (sharir & Manas peeda), Jwara, Peetabhava (yellowness in eyes, over tongue, nails, skin, urine & stools) are the symptoms of Pittaja Hrudroga.

{YNaamIa IavaNaaKaarkxTKvajalNa\_BaaJana0: |  
 ma0kva0atapaScaSa±id ipataNak0Paaita || (ca. saU17)  
 h0ahistalltataa vak00atalltaamIaairiNaNaIama: |  
 taRaa matCa\_Baa: svad: ipa\$ahdagalaxaNan\| (ca. saU17)  
 ipa\$aa\$ama0yahadahma0a: saAasataapajvarpaltabaava: | (ca. ica. 26)  
 taRaa0andahcaaka: syaupa0sakro=dyallama: |  
 CalahyanalcalmatCa\_ca svad: SaakamKasya ca || (saU1. 43/7)

### 3) KAPHAJA HRUDROGA:

It is due to vitiation of Kapha Dosha. Its symptoms are Hrudyā Suptata asleep, diminished Hrudyā functions), Hrudyā Staimitya (feeling of heaviness), Tandra, Aruchi, Kasa, Jawara, Prasheka & Stabdhatta.

Atyaa0anaIya0Ijinsag0amIcantanamca0nana\|  
 inada0saKa0calByai0ak\N0f\=daga0varNana\| (ca. saU17)  
 =dya0N0f\=daga0supta0staimata0Baairkma\|  
 tandarjicaparItasya Bavatyasmarafal\yaa || (ca. saU17)  
 ga0va0N0f\isa0avaa0erjica: stanBaa0ignama0dvama\|

maDyamaipa caasyasya bal aasavatata id ||(saU{. 43/8)

stabalyat]syata\stainatal\mama\_kxfata\pasakj varkvasatandà: | (ca. ica. 26)

Ballta#iQak\yalyaita Salamaipaly\Naosqatal\ata\ (ca. ica. 26)

j alNa#iQak\o Ainal aSalL

jalyatyaaioak\ma\ paittak\SalL (ca. ica. 26/101,102)

#### 4) SANNIPATIK HRUDROGA:

It is due to vitiation of all Doshas. Symptoms of all Doshas vitiation are seen.

ivaOad\i-adak\vaipa sarai LaD\ja\vaaitataad\k\Raj al\k\NDua\|(ca. ica. 26)

{tWl\sa: Yzlvana\ad: SalL\o I aasakistana: Ar]ica: Syaavanaatva\SalL\ca k\Raj ao

Bavata\| (saU{. 43/9)

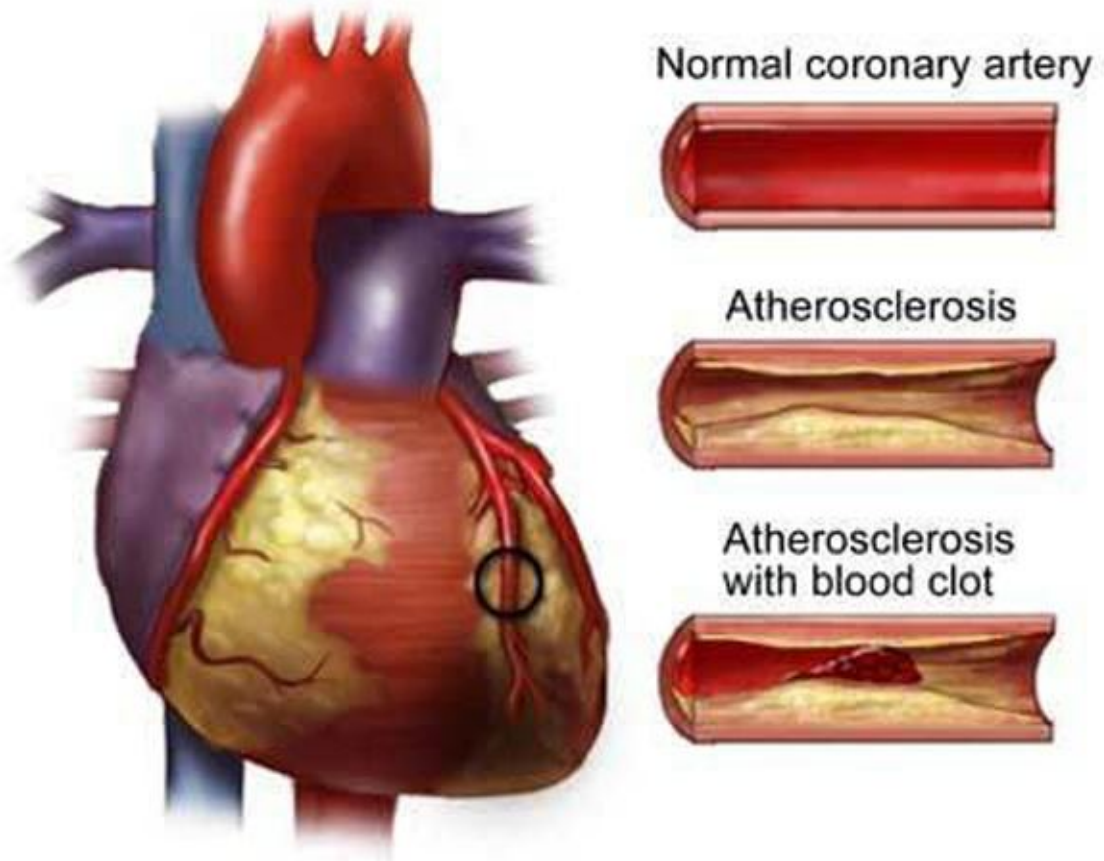
#### 5) KRUMIJA HRUDROGA:

When a person suffering with tridoshaja Hrudroga consumes Tila (sesamum seeds ) and Guda (Jaggery) excessively, then he or she may suffer from Krimija Hrudroga. (Ch.Su. 17/30-40 &Ma.Ni.)

i-adakj adu+dagyaatmaina\arata\}

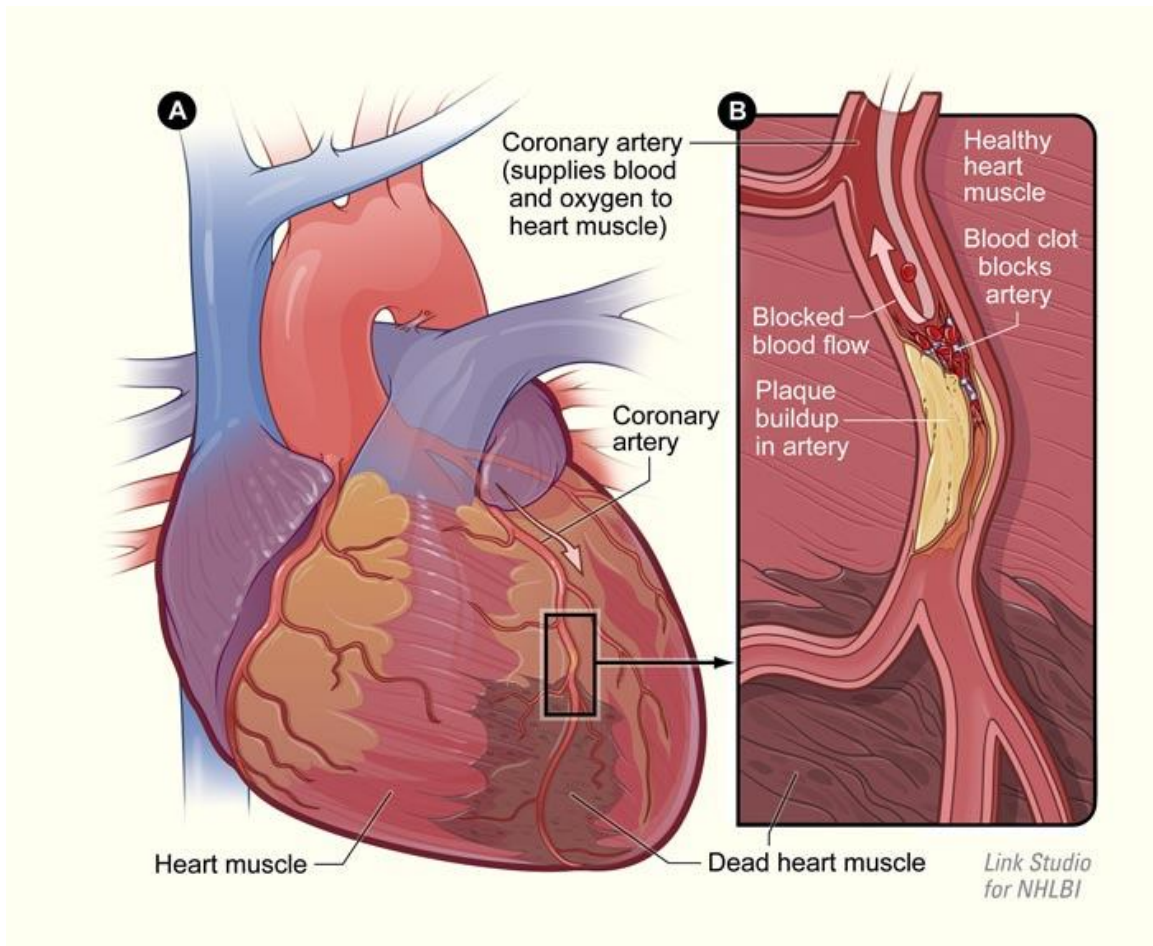
ital\alrgaDad\linaginqastasyaapj aayata\ (ca. saU 17/36-37)

## CORONARY ARTERY DISEASES



## EPIDIOLOGY:

Heart disease is one of the predominant cause of disability in all industrial nations. In 1900, heart disease occupied fourth place among the ten leading causes of death with a mortality of approximately 140 per 100,000. With a steady climb over the decades the incidence reached a peak of 375 in 1963. The rate began to fall considerably and about 60% of the total reduction occurred between 1970 and 1980. The most important aspect is decline in the mortality from IHD.



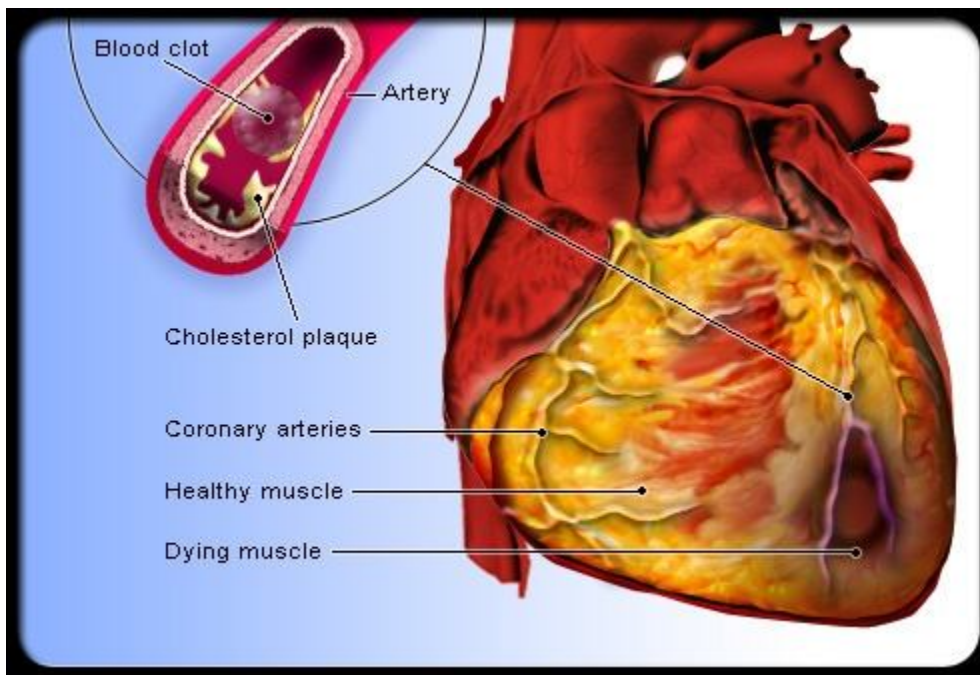
Four categories of heart diseases account for about 85-90% of all cardiac deaths. They are-

1) Ischemic Heart Disease (IHD) or CAD(coronary artery disease)



- 2) Hypertensive Heart Disease (HHD), and Pulmonary Heart Disease or Cor Pulmonale (PHD),
- 3) Valvular Disease and
- 4) Congenital Heart Disease (CHD).

Since IHD is responsible for the great majority of deaths, this paramount condition is considered first, followed by the other three categories. The remaining disorders are grouped into myocardial diseases and pericardial diseases, with a miscellany at the end.



**Definition:**

Coronary artery disease(CAD) is also called coronary heart disease(CHD). This is a result of plaque formation in arteries, which blocks blood flow and increases the risk of

heart attack and stroke. Heart disease is a result of plaque formation in coronary arteries ; a condition called atherosclerosis that leads to blockages. The arteries, which start out smooth and elastic, become narrow and rigid, restricting blood flow to the heart. The heart becomes starved of oxygen and the vital nutrients it needs to pump properly.

**Etiology:**

Cholesterol plaque can start to deposit in the blood vessel walls from young age. From young age, the plaque burden builds up, inflaming the blood vessel walls and raising the risk of blood clots and heart attack. These plaques release chemicals that promote the process of healing but make the inner walls of the blood vessel sticky. Other substances, such as inflammatory cells, lipoproteins, calcium which travel in bloodstream start sticking to the inside of the vessel walls.

A narrowed coronary artery may develop new blood vessels that go around the blockage to get blood to the heart. However, during times of increased exertion or stress, the new arteries may not be able to supply enough oxygen-rich blood to the heart muscle.

In some cases, a blood clot can totally block the blood supply to the heart muscle, causing heart attack. If a blood vessel to the brain is blocked, usually from a blood clot, an ischemic stroke can result. A hemorrhagic stroke can result if a blood vessel within the brain bursts, most likely as a result of uncontrolled hypertension (high blood pressure).

CAD is very common disease now a days. It is one of the main reason for cardiac death. Stress is one of the main predisposing factor for CAD. Stress & Manas Bhavas(Sattva/Raja/Tama) are related. Stress and heart diseases are related. Stress increases the risk of heart disease. Stress is a normal part of life. But if left unmanaged, stress can lead to emotional, psychological, and even physical problems, including heart disease, blood pressure, chest pain, or irregular heart beats.

## **Risk Factors:**

There are two types of risk factors.

### **1)Non Modifiable**

#### **-Gender**

Male are more prone than females.

#### **-Age**

As age increases elasticity of vessels decreases & risk of CAD increases.

#### **-Family History**

Persons with parental CAD history are at more risk of CAD.

### **2)Modifiable**

#### **-Smoking**

Smoking causes accumulation of nicotine in blood vessels which causes atherosclerosis in blood vessels which causes narrowing of blood vessels.

#### **-Alcohol**

Alcohol hampers lipid metabolism which increases risk of CAD.

#### **-Sedentary life style/ High fatty or junk Food**

This increases obesity or fat deposition which causes increase risk of atherosclerosis.

#### **-Stress**

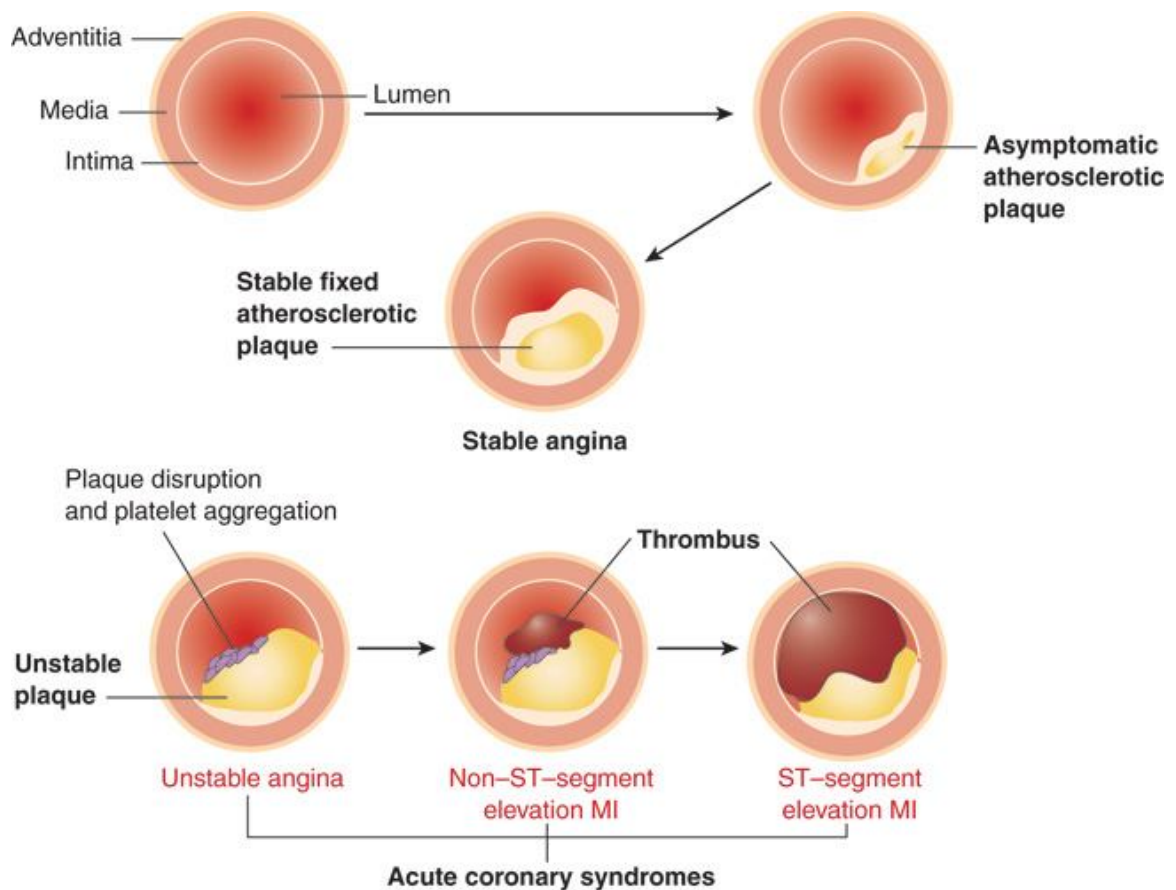
Stress is a main factor of CAD which causes physical & psychological imbalance in the body. Stress itself might be a risk factor, or it could be that high levels of stress make other risk factors (such as high cholesterol or high blood pressure) worse. People respond in different ways to events and situations according to their Manas Bhavas. One person may find an event joyful and gratifying, but another person may find the same event miserable and frustrating. Sometimes, Tama & Raja dominant people may handle stress in ways that make bad situations worse by reacting with feelings of anger, guilt, fear, hostility, anxiety, and moodiness. Others may face life's challenges with ease.

## -Hypertension/Diabetes Mellitus

These diseases increases risk of CAD.

## Structure and Biology of normal artery and its indigenous cell types :

- 1) Tunica intima
- 2) Tunica media
- 3) Tunica adventitia



## **Pathology of Atherosclerosis:**

Atherosclerosis is formation of plaque in blood vessels which causes narrowing of blood vessels.

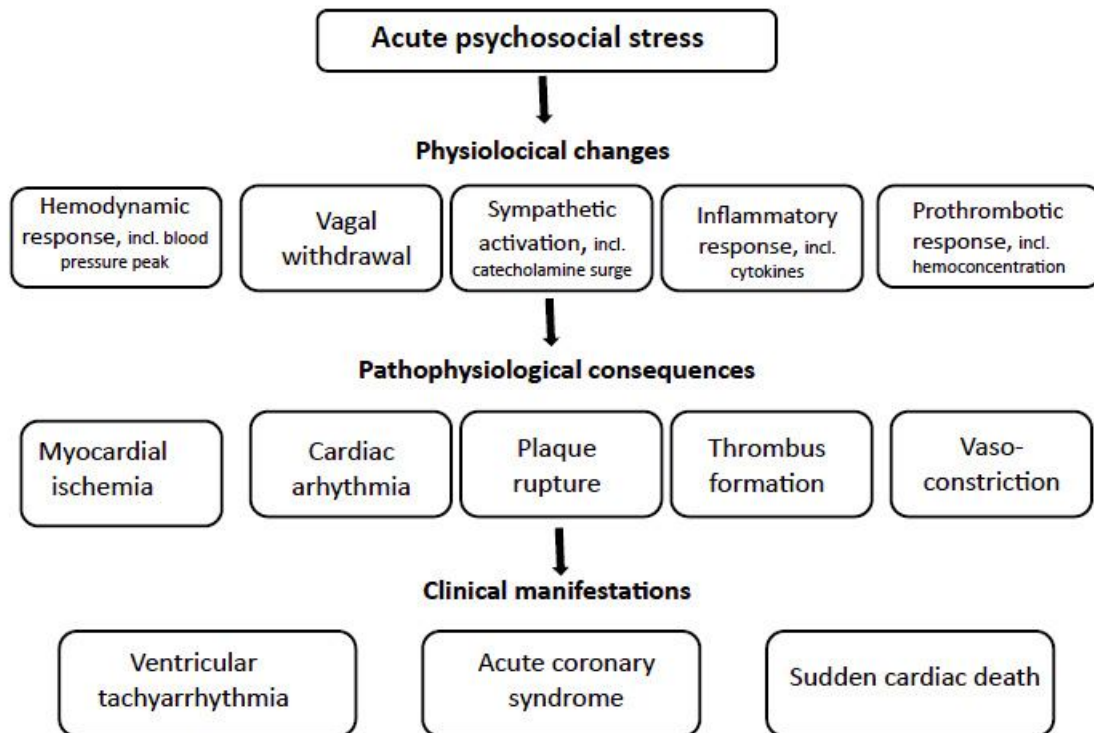
There are three types of atherosclerosis plaque:

- 1.Fatty streaks
- 2.Fibrous plaques
- 3.Complicated plaques

There are three theories of atheroma formation:

- 1.Lipogenic theory
- 2.Thrombogenic theory
- 3.Monoclonal theory

**Figure 2. Psychobiology of acute coronary syndromes**



IHD is the disorder resulting from imbalance between the myocardial need for oxygen and the adequacy of the blood supply. Reduction in coronary blood flow almost is the cause of the imbalance. IHD is also called 'Coronary Heart Disease'. In 90 - 95% of cases the reduction in coronary blood flow is related to atherosclerotic narrowing of the sub-epicardial coronary trunks. Coronary vasospasm alone or superimposed atherosclerotic narrowing may contribute to the reduction in the flow. Under this heading, four clinico-pathologic syndromes may result. They are Myocardial Infarction (MI), Angina Pectoris (AP), Chronic ischemic heart disease & sudden cardiac death.

## 1) Myocardial Infarction-

It is the most fatal form of IHD that usually results from precipitous reduction or arrest of a significant portion of the coronary flow. Whatever the sequence of events, the imbalance between myocardial needs and supply induces an episode of acute myocardial ischemia having one of the four possible consequences:

- i. it may only induce an attack of angina,
- ii. more severe ischemia may result in myocardial necrosis limited to the inner one-third to one half of some portion or the entire circumference of the left ventricular wall to produce multiple sub-endocardial foci of ischemic necrosis, also called a 'Sub-endocardial Infarct,
- iii. the ischemic necrosis may more or less traverse the entire thickness of some portion of the left ventricular wall, creating a 'Transmural Infarct, or
- iv. The acute ischemic event may cause 'Sudden Cardiac Death' within a few hours. Many of these sudden deaths are attributable to ischemia-provoked ventricular arrhythmias.

MI accounts for 20-25% of all fatalities in atherosclerosis prone societies. The incidence of fatal MI progressively rises with age to peak in the 55-65 year old group in males and in eighth decade in females. Risk group includes personality, structure, and regular exercise and alcohol consumption. Type 'A' individuals are coronary prone.

The diagnosis of acute MI is mainly based on three sets of data- (a)symptoms, (b) ECG changes (c) Elevations of specific serum enzymes.

- a) The onset of chest pain is sudden and devastating with severe, constricting, crushing, burning, substernal or pericardial pain that often radiates to the left shoulder, arm or jaw. Sweating, nausea, vomiting or breathlessness often accompanies with it.
- b) ECG changes usually occurs from the onset of the attack. They consist of new Q waves associated or evolving ST-Segment of T-wave changes in the sub-endocardial infarct. As the infarct evolves, the ST-segment normalizes and the T-waves invert.
- c) Trop-T, SGOT, lactic dehydrogenase (LDH) and creatine kinase (CK) levels are generally elevated.

## **2) Angina Pectoris-**

It is a symptom complex of IHD characterized by paroxysmal attacks of chest pain, usually substernal or precordial caused by myocardial ischemia that falls precariously short of inducing infarction. Three overlapping patterns of angina pectoris have been characterized- (a) Stable angina, (b) Variant or Prinzmetal's angina and (c) unstable angina.

### **a) Stable angina-**

It is the most common form and is therefore called 'typical AP'. It usually induces ST - segment depression. It is characterized by paroxysms of pain related to exertion and relieved by rest.

### **b) Variable angina-**



Prinzmetal and co-workers described a form of angina in 1959 that classically occurred at rest. It was caused by reversible spasm superimposed on atherosclerotic lesions. Synonym 'Vasotonic angina'. ST - segment elevation, characterizes variant angina.

**c) Unstable angina-**

It is the most ominous and has been called 'preinfarction angina, 'acute coronary insufficiency and accelerated angina.

**3) Chronic Ischemic Heart Disease-**

This is sometimes also inappropriately called ischemic cardiomyopathy, refers to the pattern of cardiac damage caused by long-term ischemia (years to decades). This pattern of IHD is characterized automatically by diffuse myocardial atrophy, loss of myocardial cells, diffuse, myocardial fibrosis, and sometimes one or more large areas of scarring from past episodes of infarction. CHD is a major cause of cardiac failure and death.

**4) Sudden Cardiac Death:**

This is basically a clinical syndrome that accounts for over half of all the mortality related to IHD. Death occurs within minutes to hours of onset of an arrhythmia, usually ventricular fibrillation.

**HYPERTENSIVE HEART DISEASE (HHD) & PULMONARY HEART DISEASE (PHD)-**

**(A) Hypertensive Heart Disease (HHD)-**

The minimal criteria for the diagnosis of HHD are-

**1) left ventricular hypertrophy in the absence of other cardiovascular pathology**

2) and a history of hypertension. Hypertension strongly predisposes to atherosclerosis, and so most patients with elevated blood pressure have significant coronary atherosclerosis. The vascular disease in turn increases peripheral resistance and viscosity - related frictional drag. The heart, then must maintain a normal cardiac output against this increased peripheral resistance and can accomplish this only by hypertrophy of myofibres, and so comes about the cardiac enlargement, of HHD. The oxygen demand is increased and present coronary atherosclerosis undoubtedly adds another unfavorable element. As long as the hypertrophy of the heart maintains a normal cardiac output, compensation may exist. Eventually however, dilatation of the failing heart ushers in decompensation. Symptoms of hypertension - such as palpitation, headaches, and poorly defined asthenia may be present. Symptoms of cardiac decompensation predominantly reflect left ventricular congestive failure.

**b) Pulmonary Heart Disease (PHD) or Cor pulmonale-**

Corpulmonale can be defined as right ventricular enlargement due to disorders that affect the structure of function of the lungs. To this definition the following essentials should be added- (1) pulmonary arterial hypertension is responsible for the right ventricular hypertrophy or dilatation, (2) the pulmonary hypertension may result from intrinsic disease of the pulmonary parenchyma or vessels, inadequate function of the chest bellows, or inadequate ventilatory drive from the respiratory centers, (3) the cardiac involvement is confined predominantly but not exclusively to the right ventricle, and 4) right ventricular hypertrophy or dilatation resulting from congenital heart disease or acquired disease of the left side of the heart is not included under the designation 'Corpulmonale'. Corpulmonale refers to the right ventricular dilatation that follows massive pulmonary embolism.

Chronic Corpulmonale usually implies right ventricular hypertrophy. Any chronic lung disease may lead to Corpulmonale. Pulmonary or mediastinal tumors are additional causes

### **VALVULAR HEART DISEASE (VHD)**

A number of acquired disorders are characterized principally by blabular involvement and dysfunction: MV prolapse, AV stenosis, mitral annular calcification; carcinoid heart disease; and three other conditions characterized by the formation of valvular vegetations - IE, non-bacterial thrombotic endocarditis, and Libmansacks endocarditis. The valvular cardiac ramifications of syphilis may cause aortic regurgitation from dilatation of the aorta. Stenosis, implies failure of a valve to open completely thereby preventing forward flow. Insufficiency or regurgitation, in contrast, results from failure of a valve to close completely thereby allowing reversed flow. Stenosis and insufficiency often coexist in the same valve, but one of these defects usually predominates.

### **CONGENITAL HEART DISEASE-**

CHD is most simply defined as a structural abnormality of the heart present from birth. VSD, PDA, Coarctation of aorta in this order are the most frequently occurring congenital cardiac defects in children.

In over 90% of instances the etiology is unknown. About 5% of cases are associated with chromosomal abnormalities and 2-3% is related to gene defects. They are classified into the following groups:

1. Abnormal communications between the systemic and pulmonary circulation without cyanosis or left-to-right shunts.
2. Valvular and vascular obstructive lesions encompassing the right-to-left (cyanotic) shunts and the purely obstructive anomalies.
3. Transpositions.
4. Malpositions of the heart

## CONCEPT OF MANAS ACCORDING TO AYURVED

Mana is the controller of all our activities and thoughts. It is situated in Hrudya. We gain knowledge of our surroundings due to the conglomeration of mana with atma, indriya and indriyārtha.

Any trouble in this pathway can cause improper grahana (perception) of knowledge

### Functions of Mana

वैश्वानरं कर्मात्मकं मनोऽहम्:

तत्रोद्वेगोऽपि तद्विषयं विद्वेकं विद्वेकं (ॐ. 1/24)

**Indriyabhigraha-** grasping the knowledge from all the indriyas

**Svasya nigraha-** control of senses

**Ooha** – power of thinking

**Vicara** – power of thought and discrimination

**Buddhi pravartana-** power of wisdom

These are the functions of mana.

<b>Function of the mana</b>	<b>Sattva</b>
<b>Consciousnesses (chitta)</b>	<b>Inner peace, selfless love, faith, joy, devotion, compassion, receptivity, clarity, good intuition, deep understanding, detachment, fearlessness, inner silence, clear memory, calm sleep, right relationships</b>

Intelligence (Buddhi)	Discrimination between the eternal and the transient, clear perceptions, strong ethics, tolerance, non violence, truthfulness, honesty, clarity, cleanliness
Mind (Manas)	Good self-control, control of senses, control of sexual desire, ability to endure pain, ability to withstand the elements (heat & cold), detachment from the body, does what one says
Ego (Ahamkara)	Spiritual idea of self, selflessness, surrender, devotion, self-knowledge, concern for others, respect for all creatures, compassion

### Visaya of Mana

ॐ इन्द्रियं च मनो च विदुः ।  
 तत्रैतानि त्रयोविधानि ।  
 विषयास्तानि तेषां च ।  
 तेषां च त्रयोविधानि ॥

ॐ इन्द्रियं च मनो च विदुः ।  
 तत्रैतानि त्रयोविधानि ।  
 विषयास्तानि तेषां च ।  
 तेषां च त्रयोविधानि ॥ (Ch. Nr. 1/20)

Thought, power of choice and discrimination, forethought, will, determination are the visayas (areas of activity) of mana.

### Relation ship between Mana and Vayu

ॐ इन्द्रियं च मनो च विदुः ।  
 तत्रैतानि त्रयोविधानि ।  
 विषयास्तानि तेषां च ।  
 तेषां च त्रयोविधानि ॥

ॐ इन्द्रियं च मनो च विदुः ।  
 तत्रैतानि त्रयोविधानि ।  
 विषयास्तानि तेषां च ।  
 तेषां च त्रयोविधानि ॥

ॐ इन्द्रियं च मनो च विदुः ।  
 तत्रैतानि त्रयोविधानि ।  
 विषयास्तानि तेषां च ।  
 तेषां च त्रयोविधानि ॥

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I ç ç ç ç ç ç ç ç ç ç ç ç ç ç ~

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In Hatha yoga pradeepika we can find a referance that Mana and Vayu are like milk and water i.e inseperable.It says that mana cannot exist with out vayu and vice versa. From this we can infer that any imbalance in mind can have its repercussions all over the body.

**Vitiation of Doshas and its impact on Mana**

Whenever there is vitiation of dosas or manovaha srotas as happens in case of stress. Mana won't be able to perform at its optimum capacity.

Functions of mana will not be carried forward properly and there will be improper conglomeration of atma mana indriya artha sannikarsha

This leads to diseased thought process and can cause astmendriyartham samyoga pradnyaparadha. These as we know are the main hetus of diseases.

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k ç ç ç ç ç ç ç ç ç ç ç ç ç ç ~ ~

V ç ç ç ç ç ç ç ç ç ç ç ç ç ~

d ç ç ç ç ç ç ç ç ç ç ç ç ~ ~ (@ ç ç 3/195)

Charaka states that whenever a person indulges in kama, Shoka, Bhaya (lust, grief, fear) there will be vitiation of Vata, there will be vitiation of Pitta Dosha when one indulges in krodha (anger). When anyone indulges in morbid activities (bhootabhiṣanga) there will be vitiation of tri Doshas.

## CONCEPT OF MIND ACCORDING TO BHAGAVAD GITA

दलं च वाजं दृष्ट्वात्मनो यो बभूवुः स श्रेष्ठः ।  
यद्वा दृष्ट्वात्मनो यो बभूवुः स पातकः ॥ २३ ॥

एवमुक्त्वा तत्रासीत्सर्वभार्यायुधामन्युः ।  
तदात्मानं सन्निधाय महाशुभ्रं ब्रवीत् ॥ २४ ॥ -Gita

In the above shloka the simile is given as follows

Chariot rider: Atma

Chariot wheel: Deha (Body)

Whip: Buddhi

Horses: Karmendriyas and the jñānendriyas

Here the acharya wants to convey the message that life is like a chariot and all the above factors are equally responsible in this journey of the chariot called as life.

If the buddhi is utilized properly to control the indriyas the chariot will move in the right way otherwise the horses (Indriyas) will carry the chariot in wrong directions.

In ayurveda our actions are said to be controlled by the conglomeration of atmaindriyamanas and artha.

When this conglomeration is disturbed due any sort of asātmendriyasamyoga, or pradnyāparadha or parināma the horses of the chariot will run in wayward directions in other words this leads to stress.

Here the stressors can be correlated to these factors which corrupt the

Manas – indriya sync. The stress is what carries the chariot directionless.

This simile from Upaniṣads gives a clear cut picturistic view about effect of stress over the mind and body.

### DEFINITION OF TERMS

<p><b>INDRIYAS</b> (<b>THE HORSES</b>)</p>	<p><b>Sense Organs: Sight, Taste, Touch, Smell, Hearing, Sexual Organs.</b> <i>The Horses of the senses interact with the objects in the world.</i></p>
<p><b>GUNAS</b></p>	<p><b>Three definite modes of nature:</b> <i>The Perception and Activity of the senses depends upon the Three Gunas.</i></p> <p><b>Rajas -</b> Activity, Excitement.</p> <p><b>Sattva -</b> Balance, Harmony.</p> <p><b>Tamas-</b> Dullness, Inertia.</p>
<p><b>MANAS</b> (<b>MAN WITH THE BOW AND ARROWS</b>)</p>	<p><b>Desiring faculty of the mind-stuff.</b> <i>The Arrow of each desire is released from the bow of the craving of The Manas.</i></p>
<p><b>BUDDHI</b> (<b>MAN HOLDING THE REINS OF</b></p>	<p><b>Discriminating and wise intellect.</b> <i>The Buddhi knows what is good and bad for us. If the manas will not listen to the buddhi then we get into trouble and experience painful and negative consequences of our craving-orientated activities.</i></p>



**THE  
MIND)**

In the picture, the chariot represents the witnessing experience (soul, spirit) of the activities of the mind.

**HOW IT WORKS.**

Depending upon the proportions of the Gunas within the individual's system, the senses (INDRIYAS) will respond accordingly.

For example: A high proportion of Rajas will excite and stimulate the senses (indriyas) into heightened experience and activity. A high proportion of Tamas will dull and depress the senses making them tired, uninterested, bored, and listless.

**MANAS GUNAS:**

- **Sattva**

- Sattva guna is characterized by the clarity, consciousness, lightness and pleasure. It is pure and free from any disease. It can't be disturbed in any manner. This guna helps activate the senses and it is also responsible for perception of knowledge. Sattva guna dominant individuals are called Satwika and they are regarded as the spiritual and noble in character.

**Sattva** is concerned with happiness. While *Rajas* is concerned with action, *Tamas* is associated with ignorance and inaction. *Sattva* is the *guna* whose essence is purity, fineness and subtlety. *Sattva* is the component concerned with lightness, brightness and pleasure. *Sattva* is associated with ego, mind and intelligence. Its association with the consciousness is the strongest. Though Sattva is an essential condition for consciousness, it is not sufficient. It should be remembered that consciousness is exclusively the *Purusha*.

**THE SATTVIC MIND:** is totally subordinate to buddhi. The Mana – desiring part of the mind - is completely under control of buddhi. In the Sattvic mode the individual is neither concerned with sensory stimulation and gratification nor experiencing the negativity of the tamasic state.

– Sattva guna is characterized by the clarity, consciousness, lightness and pleasure. It is pure and free from any disease. It can't be disturbed in any manner. This guna helps activate the senses and it is also responsible for perception of knowledge. Sattva guna dominant individuals are called Satvika and they are regarded as the spiritual and noble in character.

**Rajas** is concerned with the actions of objects. It is associated with activity and motion. In material objects, motion and action are the results of *Rajas*. In living beings not only activity and restlessness, but pain also are caused by *Rajas*.

- **Rajas**

– It is the most active of the three gunas. Stimulation and motion are its characteristics. It is the energy or the force of motion, which brings the parts of Tamas and Sattvas closer. Due to the quality of Rajas guna, there is presence of all the wishes, desire, fickle mindedness and ambitions. Rajas guna dominant individual have dominance of Pitta dosha and they are considered to be intellectual and they are regarded to be very approachable in life very humane.

**THE RAJASIC MIND:** is concerned with FULFILLING DESIRE; sensory stimulation and gratification. It is difficult for Buddhi – discriminating intelligence – to control a Rajasic mind. A Rajasic mind will always swing to the Tamasic state. We clearly observe this process in manic/depressives and drug addicts.

It is the most active of the three gunas. Stimulation and motion are its characteristics. It is the energy or the force of motion, which brings the parts of Tamas and Sattva closer. Due to the quality of Rajas guna, there is presence of all the wishes, desire, fickle mindedness and ambitions. Rajas guna dominant individual have dominance of pitta

dosha and they are considered to be intellectual and they are regarded to be very approachable in life very humane.

**Tamas** is the constituent concerned with the inertia and inaction. In material objects, it resists motion and activity. In living beings, it is associated with coarseness, negligence, indifference and inactivity. In man, it manifests itself as ignorance, insensitivity and inaction.

- **Tamas**

– Tamas guna is characterized by immunity and heaviness. Those individuals who have dominance of tamas guna are generally lethargic and dull. This guna is characterized by producing disturbance in perception processes and other activities of the mind.

**THE TAMASIC MIND:** Perceives things IN AVERSION; as dull, boring, irritating, and annoying, a burden, and hellish, confusing, anxious, neurotic, psychotic, or just plain lifeless. In the extreme the tamasic mind is nihilistic, degrading, perverse and destructive.

– Tamas guna is characterized by immunity and heaviness. Those individuals who have dominance of tamas guna are generally lethargic and dull. This guna is characterized by producing disturbance in perception processes and other activities of the mind.

Thus, due to the predominance of any the above gunas determines the psychological constitution of mind. Imbalance in any kind of gunas, result in various mental disorders. The balance of tamas and rajas are disturbed by stress condition, desires and negative thoughts. To maintain a healthy body and mind, one should try to balance the three Gunas.

## MANAS BHAVAS

In Ayurveda Manas Bhavas like Kama, Krodha, Shoka has been mentioned. Charakacharya has mentioned Vegas or Bhavas in “Swasthyachatuska” & Acharya Vagbhata has mentioned in chapter Roganutpadaneeya.

Vegas are of two types:

- 1) Adharaniya
- 2) Dharaniya
  - a) Kayik
  - b) Vachik
  - c) Manashik

[manas bhavas vega na hata qal patya ca |  
sahsa nama Sastanaa hata qal kayik nama | (ca. sa 17/26)

### Adharaniya:

These are non suppressible urges. These are like Hikka( hicough), Mutra( urine) etc. These should not be suppressed.

### Dharaniya :

[adha Saak Bayak va mana gana va aaryata |  
na aj yak vai taraga Na mai Ba aayaa Sca bai dmana | (ca. sa 17/27)

These should be sustained or suppressed. Dharaniya vegas are like Lobha(greed), Krodha(anger), Shoka(grief),

Maan(pride),Nairlajja(shamelessness),Irshya(envy),Atirag & Abhidya(desire for other's destruction).

These vitiate Dosha,Dhatu & Malas.

These are also reason of Strotodusti. E.g.

- 1) garjSaltanaita isnaqQanaitanaa-alsanaEnataana\|  
rsavaahlina d'yaainta icatyaana\| (ca. iva. 5/13)
- 2) Aa\Nyadamaad\Bayaata\paaadita\Sal\kannasanaata\|  
Antavaahlina d'yaainta ta\Raaya\Scatitapa\Dnaata\| (ca. iva. 5/12)
- 3) vyayamaaditasat\pac\Citaa\Bakimsanaata\|  
svadvaahlina d'yaainta kaa\Saak\Baya\Staqa\| (ca. iva. 5/22)

#### References:

Lobha( Rigveda-3.53.23)

Shoka( Rigveda-10.103.12, Atharvveda-3.2.5, Samveda-2.12.11)

Bhaya( Rigveda-1.171.4,3.30,2.41.10)

Krodha(Atharvveda-7.44.1, Rigveda-1.169.1,10.103.1)

Maan(Rigveda- 1.171.5)

Irshya(Atharvveda-7.45.1)

**Lobha:** means greed or desire for long or excess or too strong desire to gain.

Laabha: क्रीडा: पारवता क्रीडा: पातता

[YT ma Laina Saakaina -aliNa tyalvtvaa saKal Bava: || (A. 31/255)

talRaa, ilapsaa, talRspaRa, kvaa) vaaSa) [cCa, AibalaaYa

Laaba: #naicataivalayacena: paivaSa | (jal pakxl patar] TIKva - galjaalar)

Laaba: ivalayacanaicata paqanaa | (car kvapaskvar - yaagalndhaaqaasara)

Laaba: par dviyaaid galNacCa | (car kx paidipakva - Ealmad j yaaitalacaN/sar svatal)

Laaba: galRatayaid: | (savaa)sh)N)vyaaKya - Ar]Nad\$)

Laaba: baalvatva | (Ayaar)saayana - h)ndi)

Laaba: #nyasvaspaRa | (padaqacaN)kva - caN)N)va)

Laaba: par svagahnaaBalaaYa: | (saEata - DIhNa)

Laaba: ivalayakupana: pana: paqanaa | (Baana)ita - cak)paaiNa)

Laaba: gaDa: talRaa | paraqa parBaagaSa) parsaamaqayama) ca |

ÖYTvaa EaRaacayaa talRaa j ayata)aba) eva sa: [ita || (dlipakva TIKva - AaZmal) a)

na lala sah sakya)k)ata) | (ca. saLB/25)

It is an improper desire for objects of pleasure. It is attraction of Mana towards undesirable subjects. Lobha of a person is ambition to acquire other's wealth or position or strength after hearing about it.

Lobha is Roga hetu of:

1. Apasmara Ch.Ni.8/4
2. Arochaka Ch.Ci.26/124

**Shoka:** means sorrow, pain, trouble or affliction (Monniere Williams)

Sakā\ Saca, Saacana\ Kab

Saakx: paaidivanaa\ Saj a dityama\ (Ayaarab dliipakva – cakipaiNa)

Saakx: Qanabaan\ Qavaa\ Baavaj anyad\ Kaana: paiva\ Ra : | (jal pakxl patar] – galpaar)

Saakx: paaidivanaa\ Saj a\ dityama\ (carkva\ pas kva\ yaaga\ India\ aqasana)

Saakx: Qanabaan\ Qavaaid\ Xayaj anyad\ Vanaad\ dityama\ (carkx paidipakva Ealmad jyaiba\ yaca\ d\ sar svatal)

Saakx [Y\ Tivana\ Syaaid\ na\ manaad\ dityama\ (savaad\ dityama\ vyaa\ Ar\ Nad\ \$a)

Saakx: paaidivanaa\ paiva\ Ra : | (sa\ Eata\ Tikva – cakipaiNa)

Saakx: paaid\ Bal\ Y\ sya\ ina\ patyaa\ Saivayaaga\ cantana\ (Baanaita Tikva – cakipaiNa)

Shoka is a distressful condition due to absence or separation of loved ones (relatives, friends, sons, brothers etc.) in whom we have affection or faith. It is a condition of Mana during calamity or adverse condition.

**Bhaya:** means fear, alarm, terror, distress, danger. (Monniere Williams)

dr, -aasa, Balita, Bal: r] dāsa: sa\ Qasana\ i\ Bayaa, Aa\ Sa\ Kva, Aata\ Kva

Bayama\ A\ pak\ va\ r\ kva\ na\ sa\ Qava\ j\ a\ dityama\ | (Ayaarab dliipakva – cakipaiNa)

Bayama\ pak\ va\ r\ kva\ na\ sa\ Qana\ na: paiva\ Ra : | (jal pakxl patar] – galpaar)

Bayama\ pa\ r\ smata\ -aasa: | (carkva\ pas kva\ yaaga\ India\ aqasana) (sa\ Eata\ Tikva – D\ h\ Na)

(Baanaita Tikva – cakipaiNa)

Bayama\ A\ i\ ta\ h\ Ba\ va\ id\ tyaa\ Sa\ Kva\ | (carkx paidipakva – Ealmad jyaiba\ yaca\ d\ sar svatal)

Bhaya is caused when a person faces evil or harmful situation. When a person is confronted by undesirable or unpleasant circumstances; he experiences Bhaya. It is a state of Mana developed when a person doubts that he may have to face disaster or calamity. It is feeling of insecure state.

Person of Bhaya has **Heensattvva** (Su.Su.10/8)

Vega of Bhaya & Shoka lead to Achayapurva Prakopa of Vatadosha. They can be treated by Harshan & Aashwasan Chikitsa (Ch.Ch.19/12).

Kama, Shoka, Bhaya, Krodha, Harsha, Irshya & Lobha can be suppressed by inducing opposite emotions. (Ch.Ch.9/86)

**Krodha:**

Wrath, rage (Monniere Williams)

~~krodha~~ Amala, raga, paitada, rjd, krod\

~~krodha~~ paicla gya paj vai l ataimaatmana nityata (Ayaardlipakva – cakipaiNa)

~~krodha~~ gyaatmana padlptaima manyata data vclaaof lpaipakvar onna: paiaSa :|

(jal pakxl patar] – gajjar)

~~krodha~~ parpal Dayaana Sajanaa manasa: paj vai l ata Baava: |

(car kx paiclipakva – Ealnad j yaicba/acaN/sar svatal)

~~krodha~~ rata |

(savaagstuvvyaKyaa – Ar]Nad\$)

~~krodha~~ paitakulasa ita manasa: paj vai l ata Baava: |

(car kva skvar – yaagalndhaaqsara)

~~krodha~~ sta unasa aoyai lar] paoh saatmakx | 'yadYona = dyaa j antaaosamittal/zita vaOsakR\

parih saatmakx. Wl asa ~~krodha~~ [tyaiBaalyataq]

(dlipakva Tlkva – AaZmal la)



क्रोधाः परािBadābalaKaNa: | क्रोधाः परस्यापक्वपलाकृन्वद्यसजाः (saEata Tikva –DIhNa)  
क्रोधादोद्युतः योपजवैलता imavaatmanaNyayata ( Baanaaita Tikva – cakṛpaiNa)

Krodha develops due to hatred or enmity towards others due to which the individual feels like he is ignited or enkindled. He develops feeling of revenge. He builds up an attitude of harming or hurting others. Krodha also develops when a person confronts adverse situation or meets unfavourable or undesirable people.

Vega of Krodha & Bhaya are dependent on Sadhak Pitta( Ch.Su.12/12)

**Maan:**

Self conceit,pride,arrogance,too high an opinion of oneself,vain pride,worthless display,anger or indignation excited by jealousy...(Monniere Williams)

gava\_ AiBamaana, AhKvaṛ, ica\$asamaaita

mana: sad\$ad gāNaOyaraapataatmanyatkṛwa\_patyaya: (Aa.di. – cakṛpaiNa) (jalpakṛpatar] –  
gaḥḥar)

mana: gaNaarapata Aatmaina {tkṛwaQal: | (carkṛpasṅkar – yaagaIndnaaq asana)

mana: AhKvaṛ | (carkṛpaidipakṛa – Ealmd j yaatba/acad/\$arsvatal)

AhMara#Bamaana vyaapaarIaKaNa: | yaqaa AhimtyaiBamaana ya: ikṛyaasau paivatatao

kṛayakṛNayaUtastatadhKvaṛIaKaName\ (dlipakṛa – AaZmalIa)

Aatmaina ivaSakṛ saZNaarapNaadFRRTaa patyayaana: | (Baanaaita Tikva – cakṛpaiNa)

mana sava\_aatḥWakṛatmanaKaana\Kṛaya#par anaSataa#himaita paivaḥarhKvaṛ |

(saEata Tikva – DIhNa)

A person with Maan experiences prosperity by attributing himself with good/bad qualities though they may not be present in him. He thinks himself superior to others. He feels pride in himself after completing task. He is elevated by wealth etc.

**Nairlajya:**

Shameless, absence of blush, modesty or embarrassment... (Monniere Williams)

j a j a i p s a t a g a a n a c c a l a j j a t a d B a a v a c a a j j y a n a \ (A y a n a c c d l i p a k x a - c a k x p a i N a) (c a r k x a p a s k x a r - y a a g a l n d i n a a q a s a n a)  
 l a j j a a m a n a : s a k v a c a s t a d B a a v a c a a j j y a n a | (j a l p a k x l p a t a r] - g a j a a l a r)  
 n a a j j y a n a N a j j a B a a v a c a (c a r k x p a i d i p a k x a - E a m a d j y a a i b a l a c a d \ s a r s v a t a l)

Lajja is the desire to hide faults or demerits. It is to hinder or obstruct the Mana. The lack or absence of Lajja (shame) is Nairlajya (shamelessness).

**Irshya:** Envy, jealousy, spite, malice, impatience of other's success... (Monniere Williams)

A l l a , A X a a i n t a , A s a j a h  
 s a m a n a c o l i y a p a r s a h n a p a i t a l a c c a [ Y y a a | (A y a n a c c d l i p a k x a - c a k x p a i N a)  
 [ Y y a a g a l n a v a i t a B a a v a c a k a r a n a c c a (j a l p a k x l p a t a r] - g a j a a l a r)  
 [ Y y a a p a r a t b \ a a s a i h N a t a a | (c a r k x a p a s k x a r - y a a g a l n d i n a a q a s a n a)  
 [ Y y a a p a r a m a t y a s a i h N a t a a | (c a r k x p a i d i p a k x a - E a m a d j y a a i t a l a c a d \ s a r s v a t a l)  
 [ Y y a a A s a j a h | (s a v a a g a s t a d r \ v y a a K y a a - A r] N a d \ \$ a)  
 [ Y y a a p a r a t b \ a a s a h n a n a \ (A y a n a c c r s a a y a n a - h n a e d l)  
 [ Y y a a p a r s a h n a s a i h N a t a a (s a E a t a - D I h N a)

[Vyaa#Xama

(padagaacalMkva – caNvaDva)

[Vyaa#SamaivaBaaganalyaivyaaraiBainavaSapaitalafacCa paivaNavastapai tyagaacCa |

(Baanavita Tikva – cakipaiNa)

Non tolerance of other's prosperity is Irshya. Other meaning is the jealousy developed after watching one's husband with other women. Irshya is the desire of an individual that other's should not get what he possesses(wealth etc.)

### Atirag:

Any feeling or passion,love,affection or sympathy for vehement,desire of ,interest in...(Monniere Williams)

palita, Anacaga

Aitaraga { icata eva ivalayaqana: paivatanaacCa | (Aayanadlipakx – cakipaiNa)

Aitaraga { icata eva ivalayaqana: paiva: mana: paivaSa: |(jalpakxipatar] – gajasar)

Aitaraga: AtyaasaiWta: (car kx paiclipakva – Eamad jyaibalacalSar svatal)

raga:palita : \ (savaagastalVyaaKya – Ar]NadSa)

ragaivalayaasaiWta: | (Aayanadr saayana – hmadl)

raga-yai dVaiBal aava: | (padaga calMkva – caNvaDva)

Atirag is the desire for agreeable or acceptable subjects.It is craving or longing for pleasure or satisfaction. Recurrent/repeated bend of Mana towards objects of pleasure. It is great affection or attachment in subjects.

**Abhidhya:**

wish, longing for desire...(Monniere Williams)

AiBa aala

AiBa aana sa pa ai Ba da i ca na ya i d vaa pa r di va i va i ya a s pa Ra | (Aaya ad di pa k va - ca k pa i Na)

AiBa aya Sa pa s va i va i ya k s pa Ra ya Sa va ga i na ty an va ya: | (ca r k va s k va r - ya ga i nd i a a q a s a na)

AiBa ya pa s va i va i ya k s pa Ra | (ca r k x pa i di pa k va - Ea l ma d j ya i ba va ca d / Sa r s va ta l)

The desire to obtain other’s belonging is Abhidhya. Such a person demands for other’s things. He begs for objects of pleasure. Abhidhya also means thinking of harrasing others or distressing others.

**DHARANIYA VEGA & SHARIR SAMBANDHA:**

As in Ayurvedic texts this has been mentioned that Dharaniya & Adharaniya vegas have effect on whole body and these are also one of hetus of different diseases. These may also present as a disease symptom. Sukhsadya diseases becomes Kastasadya disease if vegas of Bhaya, Krodha are not sustained.

**EFFECT OF VEGAS ON DOSHAS:**

k va Sa k Ba ya ad va ya k va ta i pa ta va a na a:

Ba ta hi Ba ya a ta k va p ya i na ..... || (ca. iva. 3/115)

k va Sa k Ba ya ..... i pa ta va k va na pa dy a na

va na a Ba: d i va ta: | (A. h. ina. 16/23)

k va d i na i na ty a na By a sy a ta a na a na Na sy a pa r Va sy a d i va ta a sa: i pa Sa M

pa k va ya ta Na ta Sa i va d ga na d i va Sa s va ga na ta X na d i Ba: Sa i va ta va d hi ta pa d va ya i ta

... | (sa k . 45/3)

Manasik Vega	Aggravated Dosha	Reference
1.Shoka,Bhaya	Vata	Ch.Ci.3/115
2.Krodha	Pitta	Ch.Ci.3/115
3.Krodha ,Shoka,Bhaya	Pitta	Su.Su.21/21
4.Bhaya	Vyan Vayu	A.H.Ni 16/23

### MANAS BHAVAS AND MANAS DOSHAS:

Raja Guna dominant people have Krodha,Irshya,Maan while Tama guna dominant people have Bhaya. (A.H.Sh.3/7)

### MANAS VEGAS & DOSHAJ PRAKRUTI:

Person with Vata Prakruti has Irshya while person with Pitta Prakruti has Krodha,Irshya & Maan.

### MANSHIK VEGA & DHATU:

Manshik Vegas causes Strotodusti while Vegas of Shoka,Krodha,Bhaya & Irshya bring about Rasa Dhatukshaya residing in Hrudya which leads to Kshaya of subsequent Dhatus.

Atalva icantaaccala Saakvat kvaab dya\$aqaa | [Vyatk Nzaandrogana \  
sada ivaSaita yaacor: |.....=dyaqao yavaisq ata: | rsa:paanaQataib\_  
XalyataSaUtataaonPam \ rWtaadyaSca XalyantaQatavastasya dibna: ||

(ca. ica. 30/181)

{paSaaditaaosaaatnita Aitar]Xalk Ra#lpalk RaSca |  
na palNaaita [YatpalNaaitalyaqa: || (saUsaU15/33-38 DIhNa TIKra)

**MANASHIK VEGA & OJA:**

Bhaya, Shoka & Chinta results in Oja kshaya thus leading to decrease in Vyadhikshamatva.

AiBaGaataata Xayaata Krapac Cakraad \Oyanaac Cmata Xata | Aaja: sakalyatao || (salsal 15/22)

Krapac Inaamaagnatvaad a: Xayak Rya | (salsal 11/39,40, parmasar Tikka)

## CONCEPT OF PRAKRUTI

Prakruti is one of the most important and most basic principles of ayurveda.

Prakruti forms the basis in the study of wide range of aspects ranging from SHAREER, NIDANA till CHIKITSA.

Knowledge of Prakruti is therefore considered crucial in the field of ayurveda.

Prakruti in simple words is the “Structural and functional make” of a person on which his anatomy, physiology, thoughts, actions are dependent on. It forms the core on which all-physical mental and spiritual tendencies of a man rest. The likes, dislikes allergies interests susceptibility to a particular disease, seasonal variations in health all these are due to Prakruti itself.

Therefore Prakruti is given a prime role by acharyas in all ayurvedic studies.

saalwkl svaavaivakl sah jaa Ak Pra ca yaa |  
pak Pra saiba ivaava svaava na jahaitayaa ! (maDUU apinalad gaadpaad saairka)

Self existent, natural innate, not created by else one is known as Prakruti. It never loses its nature.

pak Pra stasvaava : | (ca.iva. 8|95 cakpaiNa)

Prakruti means neutrality or constitution. It is the result of many factors. In Ayurveda this constitution of Prakruti concept has given much importance. For physician to restore health of a patient, knowledge of Prakruti is of much help. In this regard to know the Prakruti it has been considered by various angles.

As described above; Prakruti has been taken in two senses as material or fundamental cause. This leads us to take Prakruti as 'Swabhava'. Nature of a person is determined on the basis of physical body buildup, his action and way of thinking on different subject adaptability and reaction to natural feeling etc. which are out come of swabhava of Doshas.

prakṛtiḥ Sca Sabd spaṣayaḥ | cakṛpaiNa

Chakrapani takes "Prakruti" as the fundamental or natural cause according to him.

It is the etiological cause of disease but else where Prakruti is nature or Swabhava. While describing Doshas Chakrapani says that the pathological symptoms and there increases is due to swahava of Doshas. Charaka has also taken swabhava as the meaning of Prakruti.

ta-a prakṛtiḥ Ina Baavaananaṁ yaakyaasyaana |  
taVqaa Saki Saadivata prakṛti k alagaaṣaya prakṛti || (ca.iva. 8 | 95)

Charaka described the formation of Prakruti in the following way: The fetal development depends upon the nature of mother's diet, her behaviour, and the proto elemental combination.

To understand the Prakruti formation phenomenon Charaka charya has made a list of factors:

The first and most important factor determining the Prakruti of an individual is the dominant Dosha resulting after the union of paternal & maternal factors i.e.

shukra & shonit sanyog.

The influence of domiant Dosha in that particular season

The diet taken by the mother is favourable for a particular Dosha.

When all these factors come together at this time of conception by their union one particular Dosha become dominant. It influences the nature



of the fetus.

Sakti asajjajai Baal Baajyaca Eaja Baasayataa Ra  
ya: syad dala #i Ok staa pak Ra : saptalaitaa || (A.h. 3|83)

In Ashtangahridya; Vagbhatacharya has followed the description of Charaka in the same manner. He has stated that shukra, shonit, pregnant woman's diet, activity, the state of uterus, yearly season all are the causative factors of Prakruti. When all these factors unite at that time which ever Dosha becomes dominant influences the Prakruti of fetus.

Sakti asajjajai Baal Baajyaca Eaja Baasayataa Ra {tk Ta : .....|(Sa.Saa. 4 |63)

Depending upon Dosha that is predominant in shukra (semen or spermatozoa) and shonit (menstrual blood or the ovum), the Prakruti of the fetus becomes according to that Dosha.

Prakruti does not harm individual just as an insect born in poison does not kill that insect.

dakana Saiyataa + Van Vmpak Ra }cyataa (ca.sa.17 |40)

The body constitution (Deha Prakruti) of person is named according to predominance of Dosha.

tasmata mayataa Sakti .....| (A.sa.Saa. 8|3)

The Shukra and Artava which are the cause for the body is full of Dosha are being natural to the body. Dosha do not harm the body by the identical qualities of food and activities.

If the Doshas have become abnormally increased at that stage (time of union of Artava and Shukra) there will be no proper formation of embryo at all or it may die or become abnormal.

pakapacaa AnyaqaBaavaaXayaaca naapj ayatao.....|( sa.Saa. 4|4)

By nature the type of constitution do not get aggravated, perverted or diminished expect when the end of life is approaching.

taqaa ca kicadahu | iWivaQaa vaataadya :| (A.sa.Saa.8|4)

The Doshas are of two types i.e. Prakrut and Vaikrut. The Prakrut Doshas are responsible for the formation of seven type of constitution of body. The Vaikrut Doshas are those which when are in normal conditions the swasthya of the body. The Vaikrut get vitiated fast and thus cause disease in the body.

sava-gala samidhataasamaQataa : | [tyaapalkRitaa: pairXata | ca.iva. 8|100

In a Samadhatu type of individual, good qualities of all the three types of individual are manifested. Vagbhata therefore described this to be best of all types of constitution (Prakruti).

ivakRScata ivakRar)cyataovakara: | -a ivakarNMaullpa dalya pakR | ca.iva. 8|101

A patient is to be examined for the vikruti or morbid manifestation. These morbid manifestations are to be examined with reference to be specific causative factors (Doshas and dhatus) involved in the pathogenesis constitution of the individual habitat, season and strength and also the symptoms of the disease without determining the strength of the causative factors etc. It is not possible to obtain the knowledge regarding the intensity of the disease.

If the afflicted Doshas, Dhatus, physical constitution of the patient, habitat, season and strength of the individual resemble that of the disease in quality and the causative factors then the symptoms are too strong and numerous, the disease so manifested is acute, otherwise it is mild, if either of the Doshas, Dhatus etc. resemble that of the disease in quality and the causative factors then the symptoms of the disease are of moderate nature and the disease so manifested is also moderate.

Hence determination of the Prakruti is very important to see for the acuteness moderateness, mildness of the disease and the curing rate and pathaya-pathya.

## ORIGIN OF PRAKRUTI

मनुस्मृतिसंक्षेपेऽथ यदुक्तं ग्लानिः -

ग्लानिर्दोषो लोचनमृच्छुभ्रः - (मानु 4/63)

**ग्लानि** - Exceeding usual measure.

From the classical references available we can term that Prakruti is formed right at the time of conception itself. It is formed by the union of shukra and shonita depending on the dominance of the Doshas at the time of conception

i.e. once a life form comes into existence he will have his own individual Prakruti which will determine all his physical and mental tendencies .

## Prakruti is eternal and unchangeable

अथ हि जन्मदोषोऽथ जन्मदोषोऽथ -

अथ हि जन्मदोषोऽथ जन्मदोषोऽथ - (मानु 4-4)

Prakruti once formed is unchangeable. It will be present with the human right from birth to death and will form the basis of all his body activities.

## **TYPES**

Classification is always based on the criteria of segregation.

Depending on the criteria different classifications of Prakruti can be done.

### A) Daihik Prakruti

Mainly 7 types of Daihik Prakruti are outlined in samhitas

1. Vata Prakruti
2. Pitta Prakruti
3. Kapha Prakruti
4. Vata-pitta Prakruti
5. Vata-kapha Prakruti
6. Pitta-kapha Prakruti
7. Sannipataja Prakruti

### B) Manasik Prakruti

Manasik Prakruti includes

1. Satwika Prakruti
2. Rajasika Prakruti
3. Tamasika Prakruti

Among these first three are formed due to individual Doshas, next three are formed due to dwandwaja or dual doshas and last three are formed due to all three or Sannipataja Doshas in day to day life we see that most of the people having dual Prakruti and very few people having a Prakruti due to independent dosha.

But as main classification in a brief manner only three Prakruti are taken into account in most of the instances

- 1) Vata pradhan Prakruti
- 2) Pitta pradhan Prakruti
- 3) Kapha pradhan Prakruti

## Panchabhoutik Prakruti

Based on the dominance of panchamahabhutas Prakruti is further divided into five types:

पृथिवी वायु अग्नि जल अether

हृत्पित्तकफवृद्धि ~

मज्जापित्तकफवृद्धि: हृत्पित्तकफवृद्धि

मज्जापित्तकफवृद्धि: जलपित्तकफवृद्धि: ~ (मज्जा/80)

Parthiva

Apya

Agneya

Vayuvya

Nabhasa

Here depending on characteristics of the person division is done i.e. a well-built stable person would fall under parthiva Prakruti. A volatile person would fall under vayuvya Prakruti and so on.

## COMPARISON OF PRAKRUTIS ACCORDING TO VAGBHATA

Vagbhata has given a comparative quote on Prakruti. According to him dual Prakruti are the best followed by kapha Prakruti, Pitta Prakruti and Vata Prakruti at last. This is due to the fact that a person with the influence of all the three Doshas will be able to cope up with the vagaries of life in a better way than a person with the influence of a single Dosha.

## FACTORS RESPONSIBLE FOR PRAKRUTI OF A PERSON

वैद्यकप्रक्रुतिप्रकारं पञ्चकालप्रकारं च मनुष्येः प्रकृतिं विहायैव प्रकृतिं  
वैद्यकप्रक्रुतिप्रकारं ~ (Dc.m. 8/10)

Vagbhata has given a quote mentioning the factors responsible for formation of Prakruti in a person. According to this 7 factors have been outlined by Vagbhata namely

1. Jati
2. Kula
3. Desha
4. Kala
5. Vaya
6. Bala
7. Atma

These factors are called **Prakruti utpadak bhavas**. In vimana sthana; Charaka has explained 5 different types of Prakruti these can also be taken as factors responsible for ones Prakruti in this context.

शुक्रशोणितसंयोगप्रकृतिः  
मत्तुराहारविहारप्रकृतिः  
महाभूतविहारप्रकृतिः  
वैद्यकप्रक्रुतिप्रकारं च मनुष्येः प्रकृतिं विहायैव प्रकृतिं  
वैद्यकप्रक्रुतिप्रकारं ~ (Dc.m. 8)

1. Shukrashonitasamyoga Prakruti (Conception, i.e. condition of sperm and ovum)
2. Maturahara vihara Prakruti (Food and life style of the pregnant lady)
3. Mahabhutavihara Prakruti (Constitution of mahabhutas)
4. Garbha Sharir Prakruti (The structure of fetus )
5. Kala garbhashaya Prakruti(Nature of season and condition prevailing inside the uterus)

## Manas Prakruti

f=fo/k [kyā Ro&" l) a]jkt I rkel fefrA r= "l) enksek[; kra

dY; k.ka' Rokr~] jkt I ā nsksek[; kra'ka' Rokr~] rkel efi

I nsksekL; kra'ka' RokrAr'skrq=; k. kefi I RokulesdSL;

Hokxeifj I [; s arjre; kxPNjhj; kufo" ksh; " plU; ksq kufp/kuRokpA

"kjhãfi I Roefp/h; r} I Roap "kjhjeArLekr~

dfrrpRokPI RokokukudkHfun? ksfun" kufkëuq; k[; kL; ke%AA (p-"k-4-31&57)

Manas Prakruti is a term that defines the mental constitution and is described in terms of the three gunas (Sattva, Rajas and Tamas).

- "Sattva qualities of the mind are clarity, alertness, attentiveness, understanding, purity, compassion and co-operation.
- Rajas qualities include ambition, self-centeredness, selfishness and restlessness.
- Tamas qualities express in the mind as dullness, gloominess, sadness, depression and laziness.

Just as the Doshas are the essential components of the body, the three gunas - Sattva, Rajas and Tamas - are the three essential components or energies of the mind. Ayurveda provides a distinct description of people on the basis of their Manas (psychological) Prakruti (constitution). Genetically determined, these psychological characteristics are dependent on the relative dominance of the three gunas. While all individuals have mixed amounts of the three, the predominant guna determines an individual's manas Prakruti. In equilibrium, the three gunas preserve the mind (and indirectly the body), maintaining it in a healthy state. Any disturbance in this equilibrium results in various types of mental disorders.

Sattva, characterized by lightness, consciousness, pleasure and clarity, is pure, free from disease and cannot be disturbed in any way. It activates the senses and is responsible for the perception of knowledge.

Rajas, the most active of the gunas, have motion and stimulation as its characteristics. All desires, wishes, ambitions and fickle-mindedness are a result of the same.

While Tamas is characterized by heaviness and resistance. It produces disturbances in the process of perception and activities of the mind. Delusion, false knowledge, laziness, apathy, sleep and drowsiness are due to it.

Rajas and Tamas, as with the Doshas, can be unbalanced by stress and negative desires as Kama (lust), irshya (malice), moha (delusion and hallucination), lobha (greed), chinta (anxiety), bhaya (fear) and krodha (anger). Each of these three properties is also comprised of sub-types and the particular sub-type to which one belongs to determine the qualities of that individual.

Sattvika individuals are usually noble and spiritual in character, their nature determined as much by body type as their star constellation, having an element of kapha in their constitution.



Satwika Subtype Qualities	
Brahma	<p>“kṛpī R; kṛhī U/kātrkRekuā foHkfxu- dkedskykākekuēgs; kṛ' kṛā ra I ea I oBkrs kṛkāfoīkrAA</p> <p>Free from passion, anger, greed, ignorance or jealousy, possessing knowledge and the power of discrimination.</p>
Arsha	<p>bT; k/; ; uorgkecāp; ā jefrffkorej ” kṛrenekujkx }s kegykṛkṛjks kā frHkopufo Kkuki /kṛj .k” kṛDrI ā éek' kfoīkrAA</p> <p>Excellent memory, purity, love and self -control, excellent intellectual frame of mind, free from pride, ego, ignorance, greed or anger. Possessing the power of understanding and retention.</p>
Aindra	<p>,s' o; bṛreknṣ okD; ; Tokua</p> <p>“kṛjēst fLourstki srefDy' Vdekj xni?kṛf” kṛzkekEkzkekṛkṛj reBṛfoīkrAA</p> <p>Devotion to sacred books, study rituals and oblations. Devotion to virtuous acts, far- sightedness and courage. Authoritative behavior and speech. Able to perform sacred rituals.</p>
Yamya	<p>yṣkklFkorā kṛrdkfj .kel i gk; zṛFkkuoṛāefreṛre's' o; ṛyFEkua; ki kxrkxs ; kṛs keks ga ; kE; foīkrAA</p> <p>Free from mean and conflicting desires and acts. Having initiative, excellent memory and leadership. Free from emotional binds, hatred, ignorance and envy. The capacity for timely action.</p>
Varuna	<p>“kṛja /kṛja “kṛpe” kṛp }s' k.ka ; TokueHkṛfoggjjrefDy' Vdekz kṛFkudki i ā kna ok# .kfoīkrAA</p> <p>Free from mean acts. Exhibition of emotion in proper place. Observance of religious rights.</p>
Koubera	<p>LFkṛuekuki Hkṛxi fjokj I ā éa /kekEkckefur; a</p>

	<p>"kfpI q kfogkjØ; ädki i d knæksjfoíkrAA</p> <p>Courage, patience, and hatred of impure thoughts. Liking for virtuous acts and purity. Pleasure in recreation.</p>
Gandharva	<p>fi z uR; xhrokn=kfyki d" ykdk[; kf; dfrgkl i jk.k'kdq' kyxll/keky; kuyji ol ul</p> <p>=hfogkj dkefuR; eul w dxkl/kofoíkrAA</p> <p>Possession of wealth, attendants and luxuries. Expertise in poetry, stories and epics. Fondness for dancing singing and music. Takes pleasure in perfumes, garlands and flowers. Full of passion.</p>

Pitta dominated Rajasic, intellectually oriented but vulnerable to temptations, are very human in their character and approach to life.

### Rajasika Subtype Qualities

Asura	<p>“kjp.MI w deS’ o; bUreks f/kdjksæuupks” kekRei vt dekl jfoíkrAA</p> <p>Indulgence in self-praise, bravery, cruelty, envy and ruthlessness. Terrifying appearance.</p>
Rakshasa	<p>vef’ k. keupU/kdki fNni gkfj .kdj egkj kfrek=#fpekfe’ kfi z reLoik; kl cgyeh’ ; jkk I foíkrAA</p> <p>Excessive sleep and indolence. Envious disposition. Constant anger, intolerance, and cruel behavior. Gluttonous habits.</p>
Paishacha	<p>Egk” kua <span style="margin-left: 150px;">L=s k</span> <span style="float: right;">L=hjgLdkee” kfp</span></p> <p>“kfp }s’ k. kkh#kh’ kf; rkj fodrfogkj kgkj ” khyá S’ kkpfoíkrAA</p> <p>Unclean habits. Cowardly, with a terrifying disposition. Gluttonous habits. Fondness for the opposite sex. Abnormal diet and regimen.</p>
Sarpa	<p>clj ” kjclj Hkh#rhc. kek; kl cgyá =Lr xkpjeegkj fogkj i j l ki foíkrAA</p> <p>Sharp reactions. Excessive indolence. Frequent fearful disposition. Brave or cowardly attitude depending on situations.</p>
Praita	<p>vkjkdkeefrnk” khykpkjki pkj l w del foHkf xuefrykyj ede? khyá S’ foíkrAA</p> <p>Excessive desire for food. Envious character. Excessive greediness and actions without discrimination.</p>
Shakuna	<p>vuä dkeet L=ekgj fogkj i fjeuofLFkree’ kzel p; a “kcdpfoíkrAA</p> <p>Full of passion. Unsteadiness, ruthlessness, and excessive attitude for food.</p>

A dominant Vata ensures that Tamasic individuals are the most down to earth, concerned about fundamental questions of practical existence, especially when confronted by more spiritual and less physical issues.

Tamasic Subtype Qualities	
Pasava	<p>fujkdfj' .kpskl at xfi l rkpjkjkjæfki j lolu" khyak" kofoikrAA</p> <p>Lack of intelligence, forbidding dispositions, envious nature. Excessive sexual indulgence and sleep.</p>
Matsya	<p>Hh#cjkkgkjyq/keuofLFkreuqkädkedkka j .k" khyark dkeakRL; foikrAA</p> <p>Unsteadiness, constant passion, and cowardice. Excessive desire for water intake.</p>
Banaspalya	<p>vyl dbyefhkfufo' Vekgkj d oçq; MxghuakuLiR; foikrAA</p> <p>Indolence. Excessive indulgence in food. Deficiency of intellectual faculties.</p>

<b>Satwika Traits</b>	<b>Charaka</b>	<b>Kashyapa</b>	<b>Sushruta</b>
Brahma	✓	✓	✓
Arsha	✓	✓	▪
Aindra	✓	✓	✓
Yama	✓	✓	✓
Varuna	✓	✓	✓
Kubera	✓	✓	✓
Gandharva	✓	✓	✓
Rsi	▪	▪	✓
Prajapatya	▪	✓	▪
<b>Rajas Traits</b>	<b>Charaka</b>	<b>Kashyapa</b>	<b>Sushruta</b>
Asura	✓	✓	✓
Paishacha	✓	✓	✓
Sarpa	✓	✓	✓

Shakuna	✓	✓	✓
Rakshas	✓	✓	✓
Praita	✓	▪	✓
Bhuta	▪	✓	▪
Yaksha	▪	✓	▪
<b>Tamas Traits</b>	<b>Charaka</b>	<b>Kashyapa</b>	<b>Sushruta</b>
Pasava	✓	✓	✓
Matsya	✓	✓	✓
Banaspatya	✓	✓	✓

## **IMPORTANCE OF PRAKRUTI**

By understanding the individual constitution of every individual, we know which food and drink and what type of job, exercise are appropriate for maintaining their health. If the daily activities, diet, occupation and behavior are not adjusted to balance this, then this constitutional humor will increase, thus giving rise to its characteristic diseases. If the constitution is known then herbs, diet & other regimens including yogic postures can be advised correctly both for disease treatment & to promote longevity.

For the individual, basic knowledge of the Prakruti is a vital tool in helping one determines the most auspicious lifestyle factors that will ensure wellness and longevity – appropriate food, herbs, exercise regimes, medicines, therapies, and even suitable professions. Knowing one's Prakruti hold the key to health, liberation, and ultimately, self –realization.

### **1. Understanding human life with the help of Prakruti**

The following factors of a human life can be applied to understand the variations in different persons by the help of Prakruti, and on the basis of this, an individual is able to understand him/herself better and able to live according to his/her 'nature, thus carving out a more appropriate life for him/herself.

- Life span of an individual
- Sadavritta (Social life)
- Measuring of an individual
- To choose the perfect partner in marital affairs
- To choose an appropriate profession / occupation

## **2. Observation of Health status according to Prakruti**

According to Ayurveda, Prakruti reveals everything about a particular individual. We can therefore assess his/her status of health, such as strength (physical and mental), appetite, adaptability, compactness of his body, etc., and on the basis of these findings we can form some conclusions about his health status.

## **3. Disease susceptibility and Prakruti**

Each person in the universe has a unique combination of Doshas in their body, known as Prakruti. Due to faulty dietary habits or lifestyles or by not following a regimen according to his/her Prakruti, a person can be more prone to diseases that are caused by the very same dosha of his Prakruti. It is also described in Ayurveda that Vata Prakruti persons are more prone to diseases, so such a person should adhere to the suggestions and rulings regarding food and lifestyle according to his/her Prakruti.

## **4. Preventive and promotive health care according to Prakruti**

A person is able to prevent various disorders from developing and is also able to promote his health by knowledge of his/her Prakruti. It helps in analyzing and observing dietary habits, lifestyles, daily and seasonal regimens etc. Ayurveda also prescribes various foods and lifestyles according to one's Prakruti and suggests that one should follow these guidelines to prevent various disorders and to promote health. To adopt healthy dietary habits in the reference of Dincharya and Ritucharya. To adopt healthy lifestyle in the reference of Dincharya and Ritucharya.

## **5. Diagnosis of the diseases and Prakruti**

In Ayurveda, analysis of Prakruti is very important to diagnose the underlying disorders and to treat that patient. By observing the Prakruti, diagnosis of a particular disease becomes simpler, as it not only provides an idea about the vitiated Dosha but also provides the treatment principles for that person.



## **6. Treatment is mainly dependant on or according to Prakruti**

Treatment is dependent on the acceptability of body to medications. Prakruti shows us which types of herbs, diets, and lifestyles will help in the treatment of that person. With the help of Prakruti we can assess the patient very well for his physical and mental strength, appetite, likes and dislikes and his adaptability to food and medicines, etc. Thus, analysis or knowledge of Prakruti is essential for all persons to remain healthy and to achieve the goals of a human life.

**AIM:**

To assess the association between Coronary Artery Disease (CAD) & Manas Bhavas.

**OBJECTIVES:**

- Study of CAD according to modern science.
- Study of Manas Prakruti & Manas Bhavas from Ayurvedic texts.
- Study of prediagnosed CAD patients in cardiac units with the opinion of cardiologist.
- Evaluation of % of Sattva,Raja,Tama in Manas Prakruti.
- Association of Manas Bhavas,Manas Prakruti & CAD.

## **MATERIALS & METHODOLOGY:**

The work to be done in this topic was divided into three phases:

\*1. Literary

\*2. Practical

\*3. Integration of the above said clinical and practical work to draw

the conclusion.

### **LITERARY**

- In the beginning all information in Ayurveda literature regarding Manas Prakruti, Hrudya, Hrudroga was compiled.
- Modern information about Heart, CAD from different modern texts, contemporary journals, publications and internet.
- A study on inter-relation of CAD and Manas Bhavas according to Ayurveda as well as modern science was done with quoting of necessary classical quotations.

### **PRACTICAL**

- Quantitative reading of Sattva, Rajas and Tamas were collected as mentioned by using “Ayu Soft” which is standard, reliable, authentic and approved by Centre For Development Of Advanced Computing Scientific Society Of The Ministry Of Communications And Information Technology, Government Of India and predominance of Sattva, Raja and Tama were calculated.
- The qualitative measurement of Manas Bhavas was done by standard, reliable and authentic CDAC proforma.
- The co-relation between Manas Bhavas and CAD was done.
- They were subjected to statistical analysis and conclusions were drawn.

## **DIAGNOSTIC CRITERIA FOR CAD:**

Prediagnosed patients were taken for present study. Diagnosis of CAD was based on clinical signs & symptoms & with the help of other diagnostic tools like ECG, TMT, blood biochemistry & blood biomarkers & with the opinion of cardiologists in concern cardiac units.

## **INCLUSION CRITERIA:**

- 1) Recently prediagnosed coronary artery disease patients.
- 3) Patients of either sex with age group between 30-50 yrs.
- 4) Sample size was 143 determined by Sample size formula (as recommended by statistician)  $n = \frac{Z^2 \times P(1-P)}{d^2}$  where n=total no., Z=1.96 Standard normal value, P=prevalence of disease, d=0.05 maximum error)

## **EXCLUSION CRITERIA:**

- 1) Patient of acute MI (myocardial infarction).
- 2) Patient of valvular heart disease.
- 3) Patient of abnormal heart beat.
- 4) Chest pain due to non cardiac problems.

## OBSERVATIONS & STATISTICAL ANALYSIS :

SR. NO.	NAME	AGE(in yrs.)	Sattava%	Raja%	Tama%
1	Mr. R B	39	36.95	56.60	38.46
2	Mr.S S	45	33.69	49.05	57.69
3	Mrs.J W	33	31.52	64.15	42.30
4	Mrs.S D	42	38.04	43.39	53.84
5	Mr. R S	37	65.21	37.73	42.30
6	Mr. L Y	33	39.13	66.03	34.61
7	Mr. D M	50	43.47	47.16	57.69
8	Mrs. R K	45	45.65	45.28	61.53
9	Mrs.K P	38	56.52	33.96	38.46
10	Mr. P B	42	42.39	67.92	50.00
11	Mrs. J D P	47	46.73	39.62	65.38
12	Mrs. V K	44	57.60	33.96	50.00
13	Mr. S T	48	44.56	69.81	46.15
14	Mr. T S	37	40.21	62.26	38.46
15	Mrs. S B. R	49	43.47	60.37	50.00
16	Smt. S S	43	34.78	69.81	46.15
17	Smt. H B	37	47.82	58.49	30.76
18	Mr. N V. B	49	41.30	54.71	46.15
19	Mrs. S P	47	32.60	64.15	38.46
20	Mrs. S G	39	35.86	37.73	53.84
21	Mr. A J	37	60.86	39.62	30.76
22	Mrs. S S	45	32.60	47.16	61.53
23	Mr. P G	41	35.86	60.37	42.30
24	Mrs. P P	48	64.13	35.84	34.61
25	Mrs. R S	43	31.52	58.49	42.30
26	Mr. R K	49	36.95	67.92	50.00
27	Mrs. P S	41	34.78	41.50	57.69
28	Mrs. T	35	32.60	62.26	46.15
29	Mr. S W	41	35.86	45.28	65.38
30	Mrs. S T	46	57.60	43.39	38.46
31	Mrs. S S	48	34.78	52.83	53.84
32	Mr. D W	40	39.13	65.38	38.46

33	Mr. R K	49	43.47	66.03	46.15
34	Mr. K J	37	41.30	60.37	42.30
35	Mr. N K	44	38.04	58.49	34.65
36	Mr. D V	32	31.52	50.94	61.53
37	Mrs. K M	49	33.69	64.15	46.15
38	Mr. K P	43	38.04	41.50	57.69
39	Mrs. M U	37	55.40	35.84	38.40
40	Mr. J G	39	41.30	69.81	46.15
41	Mr. I N	47	64.13	35.84	42.30
42	Mr. S M	34	38.04	66.03	42.30
43	Mr. S A	42	42.39	47.16	57.69
44	Mrs. K A	50	39.13	56.60	34.60
45	Mr. G P	45	33.69	49.05	61.53
46	Mr. R B	40	33.69	66.03	46.15
47	Mrs. S S	34	39.13	41.50	57.69
48	Mr. D D	50	56.52	37.73	38.46
49	Mr. M D	35	40.21	69.23	60.00
50	Mrs. G K	38	63.04	33.96	42.30
51	Mr. D S	48	65.21	35.84	34.61
52	Mrs. K D	47	46.23	43.39	57.69
53	Mr. J D	46	38.04	64.15	30.76
54	Mr. S V	35	32.60	47.16	57.69
55	Mr. M P	49	67.39	37.73	30.76
56	Mrs. S M	40	32.60	49.05	61.53
57	Mr. K..Y	32	35.86	66.03	30.76
58	Mr. P S	48	47.82	43.39	61.53
59	Mrs. R J	47	31.52	66.03	50.00
60	Mrs. N H	39	55.43	32.07	42.30
61	Mr. C C	44	32.60	64.15	50.00
62	Mrs. S D	41	33.69	49.05	65.38
63	Mr. M J	47	45.65	43.39	61.53
64	Mr. M M	34	40.21	66.03	30.76
65	Smt. S D S	49	33.69	47.16	69.23
66	Mrs. K L	46	44.56	39.62	53.84
67	Mrs. M G	43	67.39	41.50	38.46
68	Mr. S P	45	31.52	47.16	61.53

69	Mr. G M	37	34.78	64.15	53.84
70	Mrs. J P	34	32.60	50.94	65.38
71	Mr. D M	42	42.39	67.92	34.61
72	Mr. T N	45	48.91	45.28	65.38
73	Mr. S C	39	61.95	39.62	38.46
74	Mr. V S	36	31.52	49.05	61.53
75	Mrs. I B	38	30.43	66.03	46.15
76	Mr. V D	49	38.04	60.37	30.76
77	Mrs. C	48	30.43	49.05	69.23
78	Mr. G K	35	66.30	39.62	38.46
79	Mr. M B	50	28.26	47.16	61.53
80	Mr. A B	43	46.73	43.39	57.69
81	Mr. R C	38	57.60	33.96	50.00
82	Mr. B P	45	34.78	66.03	50.00
83	Mr. W D	34	50.00	43.39	65.38
84	Mr. P P	47	66.30	37.73	30.76
85	Mr. P S	42	31.52	52.83	73.07
86	Mr. S A	33	38.04	58.49	30.76
87	Mrs. A K	37	28.26	45.28	57.69
88	Mr. R P	43	46.73	43.39	61.53
89	Mr. S V	39	65.21	33.96	30.76
90	Mrs. S D	49	30.42	49.05	61.53
91	Mr. D S	45	60.86	37.73	34.61
92	Mr. A D	37	32.60	62.26	42.30
93	Mr. A A	48	47.82	41.50	61.53
94	Mr. D J	40	29.34	49.05	61.53
95	Mr. V P	44	40.21	58.49	38.46
96	Mrs. R Y	50	33.69	52.83	65.38
97	Mrs. S J	35	50.00	49.05	69.23
98	Mr. V D	43	53.26	30.18	46.15
99	Mr. H P	45	32.60	62.26	50.00
100	Mr. R S	49	33.69	50.94	61.53
101	Mr. I S	38	51.08	47.16	69.23
102	Mrs. K G	47	39.13	64.15	34.61
103	Mrs. S P	36	32.60	67.92	53.84
104	Mr. J Y	50	58.69	30.18	46.15



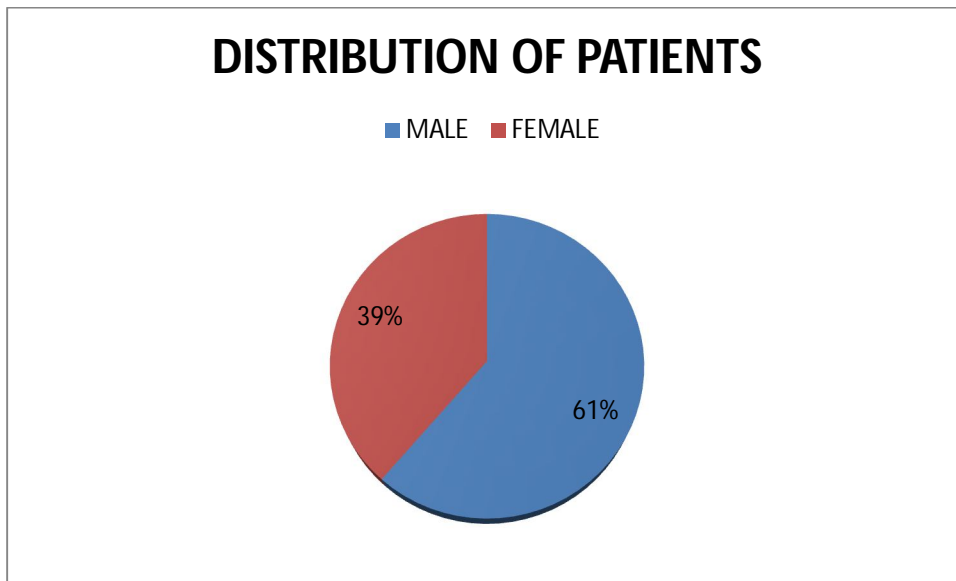
105	Mrs. W M	43	32.60	62.26	42.30
106	Mrs. J L	35	61.95	33.96	30.26
107	Mrs. K N	41	30.43	49.05	61.53
108	Mr. J M	38	47.82	45.28	65.38
109	Mr. K R	50	29.34	49.05	69.23
110	Mr. D L	46	55.43	24.52	38.46
111	Mr. V G	34	31.52	66.03	38.46
112	Mr. B D	43	28.26	49.05	69.23
113	Mrs. M K	39	50.00	43.39	65.38
114	Mr. R B	45	30.43	60.37	75.00
115	Mr. D T	48	58.69	26.41	50.00
116	Mr. S P	35	32.60	62.26	46.15
117	Mr. J P	49	46.73	43.39	61.53
118	Mr. K D	47	30.43	54.71	69.23
119	Mr. A D	39	39.13	64.15	34.61
120	Mrs. S M	47	28.26	56.60	69.23
121	Mr. S D	40	55.43	26.41	42.30
122	Mrs. K J	37	35.86	67.92	53.84
123	Mr. S D	41	63.04	37.73	34.61
124	Mrs. R M	49	42.82	45.28	69.23
125	Mrs. S P	44	27.17	45.28	61.53
126	Mr. S D	46	63.04	39.62	38.46
127	Mr. J B	41	51.08	43.39	69.23
128	Mr. D W	40	33.69	50.94	69.23
129	Mrs. S K	49	64.13	39.62	30.26
130	Mr. P S	45	33.69	50.94	69.23
131	Mr. S C	49	64.13	39.62	30.26
132	Mr. B J	47	32.60	62.26	46.15
133	Smt. D C	50	63.04	35.84	30.76
134	Mr. N J	43	39.13	60.37	30.76
135	Mr. P N	39	45.65	39.62	61.53
136	Mr. V K	47	34.78	52.83	65.38
137	Mrs. S J	42	53.26	28.30	38.46
138	Mr. D K	45	46.73	43.39	61.53
139	Mr. P K	47	29.34	52.83	61.53
140	Mrs. I A	38	57.60	28.30	46.15

141	Smt. P G	45	28.26	50.94	65.38
142	Mrs. L T	43	32.60	67.92	53.84
143	Mr. M P	34	44.56	43.39	65.38
144	Mrs. K S	37	39.13	60.37	34.65
145	Mr. S B	45	54.34	24.52	42.30
146	Mrs. P K	49	31.52	49.05	65.38
147	Mrs. P R	33	34.78	64.15	50.00
148	Mr. T D	49	32.60	49.05	69.23
149	Mr. S A	37	46.23	41.50	61.53
150	Mrs. K J	35	32.60	66.03	46.15

## OBSERVATIONS:

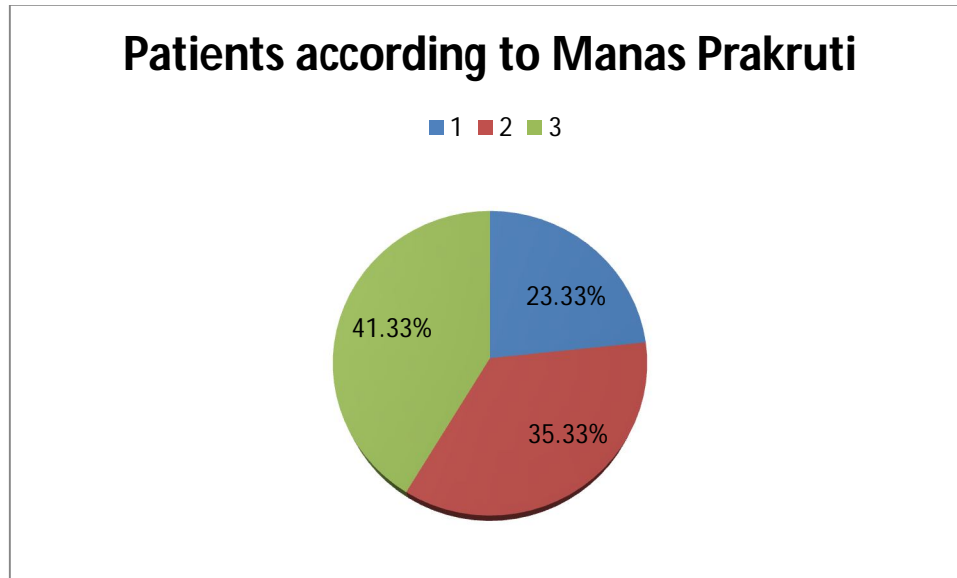
(A) Total Patients:

Sex	No. Of patients	Percentage
Male	92	61%
Female	58	39%
Total	150	



## (B) Guna anuband prakruti

Manas Prakruti	No. Of Patients	Percentage
Sattavadhikya	35	23.33%
Rajadhikya	53	35.33%
Tamodhikya	62	41.33%
Total	150	



- **Out of 150 patients;**

(1) 35 are Sattavadhikya i.e. approx. 23.33%,

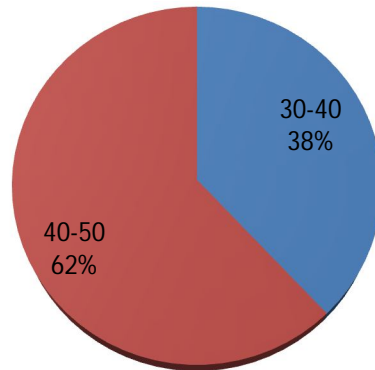
(2) 53 are Rajadhikya i.e. approx. 35.33% and

(3) 62 are Tamaadhikya i.e. approx 41.33%.

**(B) Age Group:**

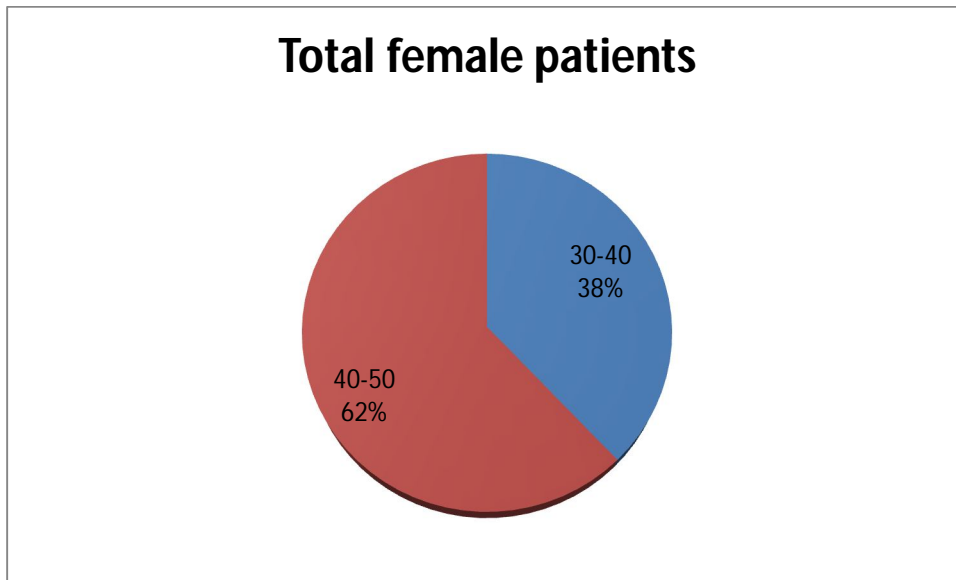
Age Group	No.of Patients	Percentage
30-40 yrs.	57	38%
41-50 yrs.	93	62%
Total	150	

**According to age distribution**



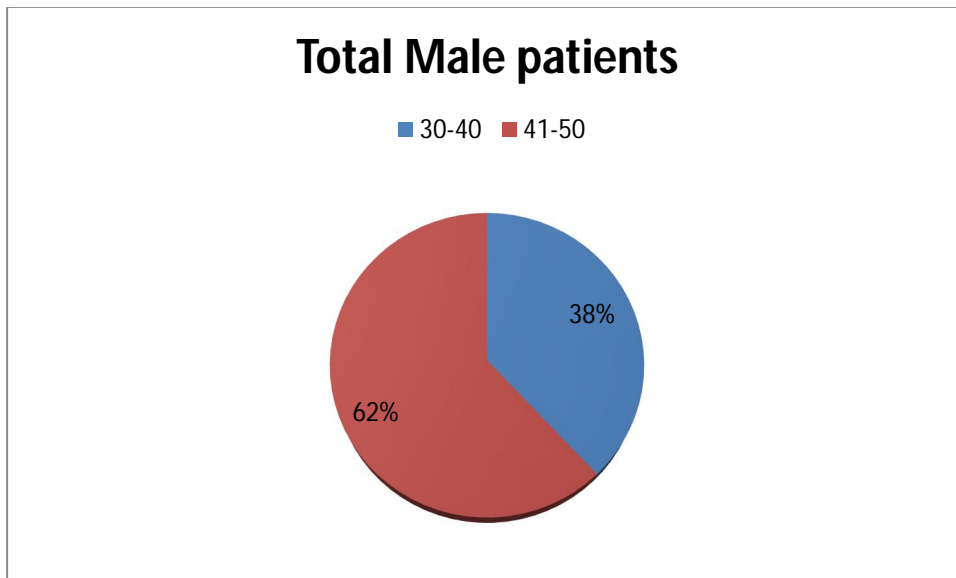
(ii) Total Females:

Age Group	No. of Patients	Percentage
30-40 yrs.	22	38%
41-50 yrs.	36	62%
Total	58	



(iii) Total male: 92

Age Group	No. Of Patients	Percentage
30-40 yrs.	35	38%
41-50 yrs.	57	62%
Total	92	



## DISCUSSION:

- This was a survey study.
- This was done with the help of Manas Prakruti questionnaire from C-Dac.
- The calculations were done with percentage method with the opinion of statistician.
- Coronary artery disease are one of the main cause of cardiac deaths.
- There are lots of reason for CAD.e.g. improper life style & improper dietary habits etc.
- Life style & dietary habits are related to Manas Bhavas & Manas Prakruti as we have seen in literary study of this research.
- **This study shows that the percentage of coronary artery disease patients is more in Tamogunadhikya than Rajogunadhikya than Sattvadhikya.**
- Sattva,Raja & Tama people have different life style,dietary habits.
- Sattva pradhan people prefer vegetarian food while Raja & Tama pradhan prefer non vegetarian food which increases cholesterol level which increases risk of CAD.
- In Ayurvedic Samhitas certain habits are mentioned as Hetu of Hrudaaya Roga. In this study, Atimatrasan,Virdhudasan etc. habits are found more in Raja N Tamo Guna dominant people. These food habits causes disturbance of Jatharagni which causes improper aahar rasa & Ama formation whichs leads to samprapti of Hrudy Roga.
- Stress & Manas Bhavas (Sattva/Raja/Tama) are related.Stress and heart diseases are related. Sattva pradhan people manages stress in a better way than Raja & Tama dominant people.
- Charaka has mentioned Atichinta is one of the main cause of Rasavahastrotodushti. Hrudy is moolsthan of Rasavahastrotas. So Atichinta causes Hrudvaigunya.(Ch.Vi.5/13)
- In Astang Hrudy;it is mentioned that Atibhaya causes Vyan Vayu prakopa & Hrudy is sthana of Vyana Vayu.So it leads to Hrudroga.Atibhaya & Ati Krodha also causes Pitta & Vata Prakopa. (As.H.Ni.16/23). In Charaka it is mentioned



that Atibhaya & Atikrodha causes Sadhak Pitta Dushti which leads to Hrudroga Samprapti.(Ch.Su.S 12/12)

Samhita	Manashik Vega	Aggravating dosha
Charaka	Shok,Bhaya,	Vata
	Krodha	Pitta
	Krodha	Rakta
Sushruta	Krodha,Shoka,Bhaya	Pitta
	Krodha	Rakta
Vagbhatta	Bhaya	Vyanvayu

In Astang Hrudyā it is mentioned that krodha,bhaya also cause Oja kshaya which leads to less Vyadhikshamatva. Oja is situated in Hrudyā also. So ultimately Bhaya & Krodha leads to Samprapti of Hrudyā Roga.

- People respond in different ways to events and situations according to their Manas Bhavas. One person may find an event joyful and gratifying, but another person may find the same event miserable and frustrating.
- **This study shows male patients's percentage is more than female.**
- This may be because of male are more prone to habits like smoking and drinking.
- **This study shows more percentage in 40-50 yrs. Group.**
- This may be because of atherosclerosis due to ageing .
- Literary study shows that increased Manas Dosha is responsible for various psychosomatic illness as per Ayurveda & Modern science.
- Body & mind correlation depends on one another. If mind is healthy body is also healthy & same goes for ill effects. So control of increase in Manas Dosha is essential. Since Manas Dosha is also essential for mind & body. So it cannot be removed completely but control can be done with proper way of handling it.

- By knowing Manas Prakruti of individual the doctor can have proper diagnosis, severity & prognosis of the disease.

## **CONCLUSION:**

- 1) CAD is a tridoshaj Vyadhi in which Kapha & Pitta prakopa is dominantly seen.
- 2) Aahar, Vihar & Manas Hetus are contributing factors in CAD.
- 3) Acharya Sushruta have explained “Hrutshula” as different Vyadhi. Dosha, Dushya & Laxan are seen in CAD patients are almost similar to Hrutshula explained by Sushruta.
- 4) This study shows that Sattva guna dominant people are less prone and Tama guna dominant people are most prone.
- 5) This study shows that CAD patients of combination of Sattva with Raja & Tama are less than Tama & Raja combination.
- 6) This study shows excessive consumption of Guru, Tikshna, Vidhahi, Snigdha food is seen in coronary artery disease patients.
- 7) Atichinta, Atikrodha are found in maximum no. in coronary artery disease patients.
- 8) This study shows that chances of CAD increases as age advances.

**Scope:**

Similar study can be done in Doshadhikya Prakrutis.

**Limitations:**

This study was done in 150 patients. This can be done in more patients for more accuracy.

**Applied:**

By this study CAD was found in all Prakruti with different ratio.

So precautionary method like improvement in diet and life style can be advised to prevent CAD.

In ancient days our ancestors followed Sadvrutta & Achar Rasayan. They were free from Manovikara. So these methods can be advised to prevent CAD.

**Consent:**

I,undersigned,Mr./Mrs./Ms.....

Age..... give consent to Dr. Ajay Dahiya for his Phd. research work with my own. Dr. Ajay Dahiya has explained the research. I am fully aware with his research work & benefits. There is no compulsion on me & I may withdraw at any time without jeopardizing any service delivery or their relationship with the researcher.

Date:

Name:

Sign/Thumb impression

सहमतपत्र

मै काल सहमत करूँ,

वयस.....वायस.....वयस.....

मैने डॉक्टर, डा. अजय दाहिया से अपने शोध कार्य के बारे में पूरी जानकारी ली है। मैं अपने शोध कार्य के फायदों और नुकसानों के बारे में पूरी तरह से осведомित हूँ। मैं अपने शोध कार्य को करने में बाध्य नहीं हूँ और मैं इसे किसी भी समय बिना किसी सेवा प्रदान करने या शोधकर्ता के साथ संबंधों को नुकसान पहुंचाने के बिना वापस ले सकता हूँ।

मैंने डॉक्टर अजय दाहिया से अपने शोध कार्य के बारे में पूरी जानकारी ली है। मैं अपने शोध कार्य के फायदों और नुकसानों के बारे में पूरी तरह से осведомित हूँ। मैं अपने शोध कार्य को करने में बाध्य नहीं हूँ और मैं इसे किसी भी समय बिना किसी सेवा प्रदान करने या शोधकर्ता के साथ संबंधों को नुकसान पहुंचाने के बिना वापस ले सकता हूँ।

हस्ताक्षर

:

सह/अज्ञात

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