

Traditional Ayurvedic Remedies for the Treatment of Cardiovascular Diseases

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ABSTRACT:

Due to lifestyle, diet, and environmental changes, Hridroga (heart illnesses) is on the rise in modern culture. According to Ayurveda, heart disorders are caused by an imbalance of three doshas, and restoring the normal levels of this tri-doshas is a critical step in the treatment of heart disease. For cardiovascular diseases, herbal treatment has been used in patients with myocardial ischemia, heart attack (myocardial infarction), Cardiomyopathies (Vatika Hridroga), Congenital Heart diseases, Angina, and hypertension. The role of Ayurveda in the prevention, management, and assessment of Ahara, Vihara, Ritucharya, Dinacharya, Yoga, and Rasayana are all stated to have a beneficial impact on the treatment and prevention of heart and circulatory disorders. This article emphasizes how herbal drugs and formulations assist in preventing and managing cardiovascular disorders.

KEYWORDS:cardiovascular diseases, myocardial ischemia, heart attack,congenital heart disease, angina, hypertension

I. INTRODUCTION:

The word 'Hrudaya' in Ayurveda is an equivalent word for heart in trendy medication. The name itself indicates the function of this very important organ. 'Hru' means one which attracts fluid or blood from the body forcibly, and 'Da' suggests donating [1]. Ayurveda is an ancient and most ordinarily practiced type of medicine in India. Ayurveda comes from the words Ayur (life) and religious text (knowledge) [2]. Cardiopathy (Hridroga) may be an international phenomenon. It is currently turning into a serious unhealthiness even in developing countries. The international burden of disease is calculable at concerning 272 death per large integer population and mortality is inflated by 59% in India [3]. Hridayroga or vas diseases include heart attacks, angina pectoris,

hypertension, innate cardiopathy, coronary heart illness, and plenty more. Written material offers numerous herbs and preventive ways for treating these heart diseases. Merely saying, Rasa (body fluids) and Rakta (blood) is circulated within the body, by the twin action of physical assortment and therefore the name Hrudaya in Ayurveda. This is often the elemental function of the heart. In line with Ayurvedic texts, the heart originates from the essence of Rakta and Kapha, preponderantly from the maternal side, and develops into a muscular organ [1].

Ayurveda is a holistic discipline that can improve heart health and even offer a cure for heart disease. The heart is one of the major vital organs that regulate blood flow and control the normal function of the body. In Ayurveda heart is known as Hriday and any damage to the heart leads to abnormal blood flow to the body. This condition effectuates various cardiovascular diseases. Traditional medicines are based on the use of natural products, which are of great importance. Civilizations have used many forms of medicine for decades and it is still widely practiced. This review examines herbal medicines that affect the circulatory system or cardiovascular system in terms of efficaciousness and safety as extracted from the scientific written work that's available. These herbs are categorized under the first diseases they treat. However, most herbal medicines have multiple cardiovascular effects that often overlap [4].

Hypertension (High Blood Pressure)

From an Ayurvedic point of view, hypertension is commonly a Pitta condition (more common). When blood pressure is low it indicates that there is a weakness of digestive fire. It is common in the Vata type due to poor blood circulation. In the Kapha type, it occurs because of

congestion and stagnation with phlegm clogging and reducing the blood flow; while in the Pitta type, it is mainly associated with anemia or damaged liver function [2,6]. There are three types of hypertension according to the concept of Ayurveda and they are- Vata hypertension, Kapha hypertension, and Pitta hypertension, given in fig.1.

Ayurvedic remedies for the treatment of hypertension

Avoidance of causative or etiological factors is the first-line management of hypertension. Ayurveda concentrates on the prevention of hypertension and the promotion of health. To manage hypertension Ayurveda emphasizes nonpharmacological methods like proper diet plans and lifestyle changes. Many of the chapters in classical texts such as Dinacharya Adhyaya, Ritucharya Adhyaya, Navegannadharniya Adhyaya, etc. are particularly dedicated to a healthy lifestyle. Reduction in body weight, stopping smoking, a healthy diet, and increasing physical exercise are routinely recommended by most physicians. While treating Hypertension the Prasara Avastha of all Tridosha and saptadhatu should be taken into consideration.

Ahara (Diet)

A proper diet should be taken for the prevention of hypertension. According to Acharya Charaka, excess lavana consumption for a longer

duration of time is the major causative factor for Hypertension. Excessive consumption of Sodium Chloride is poisonous and damages the arteries and various tissues which leads to atherosclerosis and further hypertension. A Diet rich in fruits and whole grains, low fat, low consumption of refined sugar, heavily processed food, and also low caffeine intake, and low or no alcohol consumption is beneficial [5,7,8,9].

Nidana Parivarjana (avoidance of aetiological factors)

High intake of salt and fatty substance should be avoided and medicines like NSAIDs, steroids, cough syrups, etc. are also to be taken carefully [5,10].

Vihara

Reduction of stress is very important in the management of Hypertension. Stress reduction can be achieved through meditation, yoga, and other body relaxation techniques. Upvasa (fasting), Samayka Vyayama (Regular exercise), Sadvritta palana, Yoga, Pranayama, Meditation, and Gayatri or Omkara uchhara all these methods are very useful for treating Hypertension. Shavasana, Sukhasana, Dhanurasana, Makarasana, and Vajrasana plays important role in reducing blood pressure in hypertensive patients as well as in normal individuals [5,10].

Different herbal remedies for hypertension are given in Table 1.

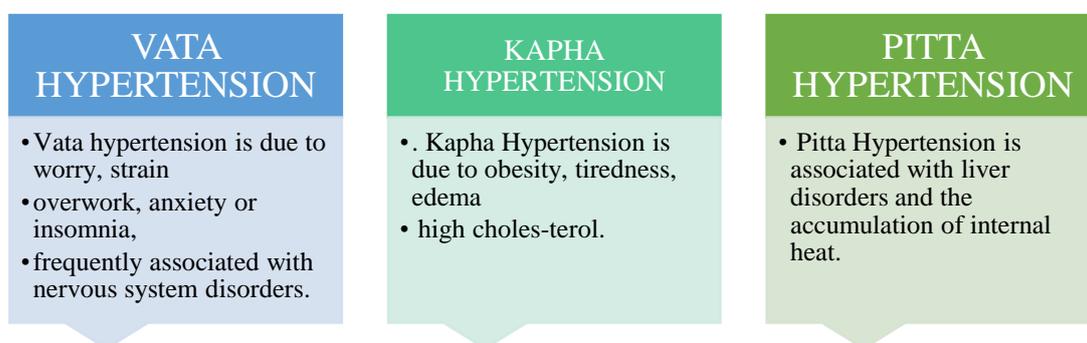


FIG 1: TYPES OF HYPERTENSION

TABLE 1:HERBAL REMEDIES FOR HYPERTENSION

Name of herb	Chemical constituent	Uses in hypertension
<p>A) Bhringraja</p> <ul style="list-style-type: none"> • Synonyms: Markava, keshraja. • Family: Asteraceae • Rasa- Katu, Tikta • Guna- Laghu, Ruksha • Vipaka- Katu • Virya- Ushna • Karma- Kaphavataghna <p>• Parts used: Whole plant, seed</p> <p>B) Brahmi</p> <ul style="list-style-type: none"> • Family: Scrophulariaceae • Rasa- Tikta • Guna- Laghu • Vipaka- Katu • Virya- Ushna • Karma- Kapha Vata <p>Shamaka</p> <ul style="list-style-type: none"> • Parts used: whole plant 	<p>Ecliptine, Wedelolactone.</p> <p>Brahmin and Herpestine alkaloids</p> <p>Asaryl aldehyde, A-asarone, B-asarone, Acorin, Eugenol</p>	<p>Bhringraj controls high blood pressure To normalize blood pressure, give two teaspoons of juice of bhringraj leaves with one teaspoon of honey mixed in it, twice a day. [5,11,12]</p> <p>Brahmi has been shown in an experimental investigation to reduce blood pressure when taken orally. N-nitro-L-arginine methylation causes chronic hypertension in rats, hence it reduces blood pressure. In one animal study, Bacopa monnieri reduced both systolic and diastolic pressure levels. [5,13]</p>
<p>C) Vacha</p> <ul style="list-style-type: none"> • Synonyms: Uragandha, Shadgrantha, Golomi. • Family: Araceae • Rasa- Katu, Tikta • Guna- Laghu, Tikshna • Vipaka- Katu • Virya- Ushna • Karma- Kaphavataghna 	<p>Reserpine, serpentine, serpentinine, rauwolfinine.</p>	<p>Blood pressure-lowering effect in normotensives Action on Hypertension- Hypertension was generated in rats by closing the left renal artery for 4 hours. Animals were anesthetized with ketamine (50 mg/kg) at the end of the experiment. The carotid artery was cannulated and linked to a pressure gauge. A blood pressure transducer is a device that measures blood pressure. Acorus ethyl acetate extract was shown to be effective. calamus rhizomes (EAAC) treated hypertensive rats showed considerable improvement. When compared to the control group, systolic and diastolic blood pressure were significantly lower (P 0.01).[5,13]</p>
<p>D)Sarpagandha</p>		<p>Rauwolfia Serpentina is very</p>

<ul style="list-style-type: none"> • Synonyms: Dhawala vitapa, Chandramara, Sarpasugandha, Sarpagandhakhya • Family: Apocynaceae • Rasa- Tikta • Guna- Ruksha • Vipaka- Katu • Virya- Ushna • Karma- Kapha Vata Shamaka • Parts used: Root. 		<p>useful for the management of hypertension. The powdered form of root in the dose of 1.3-2 gm BD helps reduce blood pressure. Fall in the systolic and diastolic blood pressure in the range of 80-100 % respectively occurs.[5,14]</p>
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MYOCARDIAL ISCHEMIA

Ischemic heart disease is one of the most common diseases in the world. Myocardial ischemia is characterized as an imbalance in oxygen supply to the coronary artery caused by atherosclerosis and thrombus blockage. They cause a partial or full blockage of the cardiac arteries, resulting in death.

Herbal formulations that are used in the treatment of myocardial ischemia [15]

a) Arjunaristha

It strengthens the cardiac muscles, inhibits plaque from forming in the blood arteries, and protects atherosclerosis from developing. It contains Arjuna tvak (Terminalia arjuna bark), Dhataki Pushpa (Woodfordia fruticosa), Maghuka Pushpa (Madhuca indica flowers), and Guda or jaggery.

b) Arjunkshirpak

It can help those with heart problems, angina, cholesterol, and blood pressure regulation. It

contains- Arjuna red bark powder, cow's milk, water, misri (sugar).

c) Akikipishti

This tonic is used to treat rapid or irregular heartbeats, as well as hypertension. It has also strengthened hearts. It contains Akik stone (Agate Gemstone), Aloe Vera juice, rose water, and cow's milk.

d) Triphalaguggulu

This herb lowers cholesterol and strengthens the heart. It contains Amla (Emblica officinalis), Hareetaki (Terminalia chebula), Vibheetaki (Terminalia bellerica), Guggulu (Commiphora mukul).

e) Ashwagandhachurna

It is used to treat coronary artery disease, high blood pressure, and ischemic cardiomyopathy [15]. Ayurvedic remedies for myocardial ischemia are mentioned in Table 2.

TABLE 2: AYURVEDIC REMEDIES FOR MYOCARDIAL ISCHEMIA [16]

Drug	Chemical constituent	Uses
Arjuna (Terminalia arjuna)	Arjunolic acid	1. With cardiac hypoxia and postural hypotension, it has PGE2-like activity. 2. It protects the heart from the effects of persistent beta-adrenoceptor stimulation
Cinnamon (Cinnamon zeylanicum)	Cinnamon aldehyde and cinnamic acid	1. Protect against myocardial ischemia 2. Anti-carcinogenic, anti-oxidant, anti-inflammatory, anti-diabetic, and anti-microbial activities are also identified in it.
Fenugreek (Trigonella foenum-graceum)	Trigonelline, alkaloids, steroid chemicals, and saponinins	Fenugreek may help regulate cholesterol levels and can reduce the risk of developing heart conditions.
Garlic (Allium sativum)	Allicin	1. Reduction of risk factors for heart and circulatory disorders, as well as cancer. 2. It boosts the immune system. 3. Antimicrobial and antioxidant properties. 4. Attenuation of age-related variables increases in aortic stiffness have been reported after taking garlic for a long time.
Turmeric (Curcuma longa)	Curcumin	Curcumin preconditioning efficiently protects against myocardial ischemia by stimulating pro-survival kinases such as p13k, Akt, ERK1/2, and Gsk-3 beta, as well as inhibiting p38 and JNK.
	6- gingerol	A derivative of ginger that protects the heart by suppressing myocardial ischemia.
Ginger (Zingiber officinale)	Ajmaliner, Indobinine, Serpentine, Serpentine	1. It can reduce irregular heartbeats. 2. It can also be used to treat hypertension.
Sarpagandha (Rauwolfia serpentina)	Alkaloid brahmin, hesperidin, bacosides A and B, saponins A, B, and C	1. It is used to treat a variety of ailments, including cardiovascular and respiratory problems. 2. It's also utilized as an anti-inflammatory, analgesic, febrifuge, and anti-rheumatic agent, among other things
Brahmi (Bacopa monnieri)	Tannins, flavonoids, and phenol carboxylic acid	Antifungal, anti-inflammatory, anti-oxidant, and anti-cholesterolemic properties are treated[16].

<p>Amalaki (Phyllanthus Emblica)</p>		
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CONGENITAL HEART DISEASE (Douhruda apacharaja vyadhis)

Congenital heart disease is a condition in which one or more structural flaws in the heart have exists since birth. The term "congenital" refers to a condition that is present from birth [16]. Congenital heart disorders (douhruda apacharaja vyadhis) are caused by the mother's unwholesome behavior during conception and pregnancy. Vata dosha is the primary dosha involved in douhruda apacharaja vyadhi. Vatadosha is in charge of the garbha vikruti [2].

Ayurvedic medicines for Congenital heart disease

- 1] Hridayaranava rasa
- 2] Arjunarishtam
- 3] Dashmoola katuthrayam Kashaya
- 4] Prabhakara Vati
- 5] Vyaghri hareetaki avaleha
- 6] Shwasa Kutura rasa
- 7] Kanakasava [18]

Drugs

- 1. The tincture of Crataegus oxycantha Linn. (Hawthorn berry) stimulates the heartbeat and promotes circulation in the heart's blood vessels. Hawthorn extract increases the supply of arterial blood to the heart by gently dilating the coronary arteries. This activity improves oxygen usage, making the heart muscle stronger. Crataegus differs from digitalis, a powerful heart stimulant, in that it has no negative side effects.
- 2. Linn's Ocimum sanctum .[Tulsi]- Aromatic and a pacifier/normalizer of vitiated and disturbed

Kapha-Vata doshas, this herb is effective in blood diseases, according to Ayurveda (Raktavikar). It is used to clean the coronary artery and blood flow in congenital illnesses. Flavones, glycosides, gallic acid and its ester, caffeic acid, and volatile oil with eugenol as the primary constituent were discovered in phytochemical studies of leaves [2].

ANGINA PECTORIS (Ayurvedic Name- HRITSHOOLA (Hriday- Heart, Shoola- Thorn or Pain))

Angina Pectoris is a chest pain that occurs due to inadequate oxygen supply to the Heart Muscle. Angina is a sensation of chest pain due to ischemia of heart muscles from the spasm of coronary arteries. Angina saw in people with age more than 50 years. Angina can be a precursor for Heart Attacks. Today Angina is one of the leading causes of the deaths of people.

Three types of Angina

Stable Angina- Also called Classical angina, Angina of efforts, Exertional angina, or Typical angina. It occurs while doing exercise or any other physical activity.

Unstable Angina- It occurs due to rupture of the Atherothematous. Chest pain continues even in the rest position.

Variant Angina- Also called Prinzmetal angina and Vasospastic angina. This occurs due to coronary vasospasm.

Hritshoola occurs due to excessive Kapha dosha. Kapha is heavy, dense, stable, sticky, wet, and cold. In Angina Ama accumulates in hridayvahi channels

and blocks these channels which leads to an aggravation of Vata dosha (Air or wind). Vata is dry, mobile, and cool and causes heart pain [18]. The causes of Hritshoola are given in fig.2.

Herbal remedies for Angina/ Hritshoola

Terminalia arjuna

synonym-Arjun bark, arjun.

Biological Source-Arjuna consists of the dried stem bark of the plant known as Terminalia arjuna Rob, belonging to the family Combretaceae.

Arjuna is a powerful heart tonic and cardiovascular protector. It strengthens the cardiac muscles, improves coronary artery blood flow circulation, and protects the heart muscle from ischemia damage. Arjuna with milk decoction is a well-known heart tonic. The herb Terminalia arjuna has traditionally been used to balance the three "humours" of Kapha, pitta, and vata[19].

Arjuna Capsules

Arjuna Capsule is a herbal medication that can help with cardiac problems. This dietary supplement is made using Arjun. The bark of the Arjun tree contains natural alkaloids that are particularly efficient in treating heart ailments. Assist in the removal of artery blockages.

Dose- 2 capsules twice daily with water after meals [18].

Arjuna Tea

Herbal tea has a great flavor and a relaxing scent. It aids in stress reduction and mental relaxation. It's 100 percent natural and has no side effects. Arjuna (Terminalia arjuna), Punarnava (Boerhavia diffusa), Pipal tvak (Ficus religiosa), Dalchini (Cinnamon tamala), and Choti elaichi (Elettaria cardamom) are some of the herbs used to make arjun tea.

Dose- 1-2 cups twice daily [18].

Natural Home Remedies

1) fenugreek-Fenugreek seeds can be soaked in water overnight and taken on an empty stomach to reduce cholesterol levels.

2) water-The second home treatment for this condition is water. Drinking enough of water every day helps to cleanse our bodies.

3) lemon-Lemon is a readily available home treatment. To avoid the formation of fat and cholesterol in your body, try to include one lemon in your daily dietary supplements.

4) Parsley-Parsley is also an important home treatment for angina pectoris. It can be consumed in the form of fresh or dry leaves. Tea of parsley can be used to treat Hritshoola.

5) leaves of basil-Tulsi is a popular name in India. The best technique to treat angina is to chew basil leaves in the morning.

6) garlic-On an empty stomach, eating two or three raw garlic cloves lowers blood pressure and it is helpful in angina.

7) onion-Although raw onion has a little bitter flavor, taking onion juice in the morning immediately lowers your cholesterol level.

8) grapes-These are recognized to be heart-healthy. They assist to lower your chance of having a heart attack and enhance the quality of your breathing.

9) amla-Amla provides a plethora of health advantages. It helps to stimulate flow of blood by increasing heart rate. easy home remedies are often useful in avoiding symptoms and other significant issues. Specific treatments are necessary after the illness has reached its last stage of development. Home remedies work in tandem with the medication recommended by the doctor. Daily short walks also aid in the treatment of angina. A healthy sanitary diet might be beneficial in some circumstances[18].



FIG 2: CAUSES OF HRITSHOOLA

CORONARY ARTERY DISEASE

Coronary artery disease is a disorder in which the myocardium receives insufficient blood and oxygen. It is caused by blockage of the coronary arteries, which causes an oxygen demand-supply mismatch. It usually involves plaques forming in the lumen of coronary arteries, obstructing blood flow. In Ayurveda, CAD is known as Krimija hridroga. A person with heart disease caused by vitiation of all three doshas (tridoshaja) who eats foods high in sesame (til oil) oil, milk and its products, and high sugar goods while avoiding physical activity may acquire the illness [2].

Ayurvedic remedies for coronary artery disease

1] *Embllica officinalis* Gaertn. (Amla/Amalaki) is a plant that helps to regenerate and maintain new tissues while also increasing red blood cell count. It has the highest natural vitamin C content and decreases pitta without irritating vata or kapha. Triphala, the principal Ayurvedic tonic for sustaining health, has it as one of three herbs [2,23]. Amla fruits are regarded as Rasayanas and rejuvenators in Ayurveda. They are one of the three constituents of triphala, which is a medicine for constipation, indigestion, and hyperacidity, and are widely employed in Ayurvedic remedies for the treatment of a variety of ailments and debility conditions [2,24]. Gallic and ellagic acids, hydrolyzable tannins, and ascorbic acid are all present [2,25].

2] The bark of *Terminalia arjuna* (Roxb.) Wight & Arn. (Arjuna) is used in traditional medicine. The patient is given six teaspoonfuls of Arjunarishta twice daily after food, along with an equivalent amount of water [2,26]. Arjuna is an Ayurvedic cardiac tonic used to treat a number of heart ailments [2,23]. In cardiac formulae, it's frequently coupled with ashwagandha, brahmi, and guggul. Arjuna is a coronary vasodilator that protects the heart, strengthens circulation, and aids in the maintenance of heart muscle tone and function. With honey and warm water, 1/2 teaspoon (500 milligrams to one gram) is given three times a day. Arjunolic acid, given at a dose of 15 mg/kg, has been shown to protect against myocardial necrosis, which causes irreversible damage to heart cells [2,27].

3] Garlic- The most essential substance beneficial in reducing vata doshas, controlling blood pressure, and lowering cholesterol is *Allium sativum* Linn. (garlic). Garlic has been shown to reduce blood pressure, strengthen the immune system, combat infections, and prevent cancer [2,28]. Garlic

decreases total cholesterol levels and aids in the treatment of colds and flu. It also aids in the treatment of parasites, bacterial infections, cancer, and ulcers, and even slows the progression of existing malignancies [2,29].

4] *Withania somnifera* is a kind of withania. Dunal (Ashwagandha) stimulates the immune system, improves memory, and has a beneficial effect on the endocrine, cardiac, and central neurological systems. In addition to protecting against ulcers and strep infections, *Azadirachta indica* (Neem) is beneficial for coronary artery disease and heart arrhythmias [2].

Ayurvedic formulations

1] Chandraprabha- It is used to keep cholesterol and blood sugar levels in check. Abana, which contains arjuna, ashwagandha, and shatavari, helps to maintain healthy cholesterol levels, control blood pressure, and provide oxygen to the heart. Abana lowers cholesterol, triglycerides, low-density lipoprotein (LDL), and very low-density lipoprotein (VLDL) levels while increasing cardioprotective high-density lipoprotein (HDL) levels. Platelet aggregation is also reduced with Abana. By having a positive inotropic effect, Abana decreases the susceptibility of the heart to adrenergic stimulation and enhances the contractility of the heart. Digest Ease is a pitta digestive solution. For people who suffer from hyperacidity and heartburn, it aids digestion and absorption [2,30,31].

2] Arjunarishta -Poor blood circulation, increased red blood cell count, coronary heart disease, heart palpitations, irregular heartbeat, arteriosclerosis, and angina pectoris are all improved by Arjuna Nectar. Arjuna-containing Parthadyarishtam is used to treat heart and lung problems, as a cardiac stimulant, and to manage blood pressure. Various cardiovascular illnesses are treated with Hridayarnava rasa and Prabhakara vati. Mrigamadasava is an excellent treatment for acute attacks. Blissful Joy is a restorative herbal supplement that contains Arjuna, Ashwagandha, and other nourishing herbs [2,32,33,34].

3] *Crataegus oxycantha* -*Crataegus oxycantha* is a harmless plant that can be used to treat congestive heart failure. *Crataegus oxycantha* extracts have been shown to improve the energy dynamics of the heart muscle under ischemia circumstances. Mechanism of action-*Crataegus* has been found to have cardiovascular effects, including improved blood vessel integrity and effects on coronary blood flow and oxygen utilization, due to its inotropic and chronotropic

actions [20,21,22]. Action of various drugs are mentioned in table 3.

TABLE 3: ACTION OF DRUGS

Drug	Botanical name	Mechanism of action
1.Amla	Emblica officinalis	Dilates the blood vessels
2.Arjuna	Terminalia arjuna	Coronary dilator
3. Garlic	Allium sativum	Lowering cholesterol and controlling blood pressure.
4. Ashwagandha	Withania somnifera	Prevents lipid build-up in blood vessels.

MYOCARDIAL INFARCTION

The majority of cardiac crises are deadly. The role of Ayurveda in certain conditions has remained limited to this point, but it has been noted in the texts that these disorders can be effectively controlled with Ayurvedic medicine. Myocardial Infarction, an occlusive condition that causes irreversible damage to the heart muscles, is the most common cardiac emergency. All three treatises of Ayurveda described that Vata is the principal Dosha to be vitiated, and hence pacifying Vata with promptly acting medicines is required for managing the condition. Shuddhu Hingu is one drug that can pacify Vata immediately and thus be the drug of choice [35]. Myocardial infarction, usually referred to in common terms as a heart attack, is most often caused by a decrease or stoppage of blood flow to a portion of the heart, leading to necrosis of the heart muscle. This is generally the result of a blood clot in the epicardial artery that supplies that territory of heart muscle. Clotting of blood may interrupt supply of blood and along with blood inadequate supply of oxygen to the heart may hamper it's function, which, in severe case may lead to stoppage of heart activity and leading to death of tissue of hearts, and in general death of that person[36].

Ayurvedic approach-Heart illnesses in Ayurveda are of 5 types, viz. Vataj Hrid Roga, Pittaja Hrid Roga (inflammatory situation concerning coronary heart or nearby), Kafaja Hrid Roga (Organic disorders), Tridoshaja Hrid Roga and Krimija Hrid Roga (can be interpreted as Valvular coronary heart sickness) [37,38,39].

1. Arjuna
 Scientific name: Terminalia arjuna
 Family: Combretaceae
 Kingdom: Plantae

Order: Myrtales
 Use- Arjuna has been used as a cardiogenic in coronary heart failure, ischemia, cardiomyopathy, atherosclerosis, and myocardium necrosis and has been used for the remedy of various human illnesses like blood illnesses, anemia, venereal and viral sickness; and to preserve splendid healthiness.

Scientific proof presents the usefulness of numerous Ayurvedic tablets in cardiovascular illnesses. Clinical research has proven the efficacy of the bark of T. arjuna in congestive cardiac failure, persistent solid angina, and hypertension. T. arjuna and its constituent, Arjunolic acid have proven cardioprotective results because of their antioxidant property [40].

2. Lasuna (Garlic)
 Scientific name: Allium sativum
 Family: Amaryllidaceae
 Order: Asparagales
 Kingdom: Plantae

Uses- Lasuna lowers blood lipid ranges by modulating key enzymes within the liver answerable for LDL cholesterol biosynthesis. It additionally saves the hardening of blood vessels by lowering lipid accumulation within the arteries. Lasuna is a powerful antioxidant that gets rid of unfastened radicals that cause an imbalance

withinside the regular cap potential of blood vessels to constrict and dilate [40].

3. Jatamansi (Spikenard)

Scientific name: *Nardostachys jatamansi*

Family: Caprifoliaceae

Order: Dipsacales

Kingdom: Plantae

Uses- The extract of jatamansi notably averted and restored the lipid peroxides and antioxidant enzyme to nearly regular ranges in a rat model. The root has been medically used to deal with insomnia and blood, circulatory, and intellectual disorders. Some arrangements of the plant had been used as a cardiostimulant, analgesic, and diuretic withinside the Unani machine of remedy [40].

4. Pushkaramool

Scientific name: *Inula racemosa*

Family: Asteraceae

Higher classification: *Inula*

Kingdom: Plantae

Uses- *Inula racemosa* protects the coronary heart from isoproterenol-caused myocardial harm by lowering oxidative pressure and modulating the hemodynamic and ventricular capabilities of the coronary heart. The present look at findings displays the cardioprotective impact of *I. racemosa* and assists the pharmacological relevance of its use and cardioprotection mechanism in ischemic coronary heart sickness [41].

5. Amalaki

Scientific name: *Phyllanthus emblica*

Family: Phyllanthaceae

Order: Malpighiales

Kingdom: Plantae

Uses- Amlaki is utilized in Ayurveda as a cardiostimulant. Earlier research on the impact of *Embllica officinalis* in hypercholesterolemia and atherosclerosis has been constrained to its impact on general serum LDL cholesterol and low-density lipoprotein (LDL) cholesterol [2-5]. A current experiment performed in rats confirmed that flavonoids from *E. officinalis* correctly decreased lipid ranges in serum and tissues and had a big inhibitory impact on hepatic 3-hydroxy-3-methylglutaryl-Coenzyme A (HMG CoA) reductase[42].

II. CONCLUSION:

In Ayurveda, there are many medicines used to treat various diseases of the heart, which are helpful in preventing, treating, and relieving

symptoms and protecting the heart from further damage. Ayurveda has offered novel remedies to treat heart diseases. Plants like arjuna, garlic, cinnamon and their formulations are very useful in treating heart diseases. The detailed study of plants and their components for their pharmacological effects will help in the development of new molecules to treat heart disorders. Scientific evidence is available on the usefulness of several Ayurvedic drugs in cardiovascular diseases. Natural products have gained popularity due to the usefulness of the bioactive compounds they contain, so these herbs should be given a lot of attention and evaluated in comparison to synthetic medicines. Side effects must be well studied, and if found to be significantly low, they can be used as therapy and preventive medicine for cardiovascular problems.

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