

## Ayurvedic Management of Coronary Artery Disease - A Review

### Review article

Shirish D Gaddamwar<sup>1\*</sup>

Asst.Professor, D.M.M.Ayurved College, Shivaji Nagar, Arni Road, Yavatmal(MH) 445001.

### Abstract

Ayurvedic scholars has describe the *Hridaya* as one of the 'Dashapranayatan'(1). They also describe *Hridaya* as a 'mahat' means important organ of the body and 'artha' means working 24×7 from birth to till death(*gatiman*)(2). *Sushrut samhita* mentioned the *Hridaya* as a place of 'cetana'(3). Ayurvedic scholars give very much importance to *Hridaya*. Apart from this ayurvedic scholars has mentioned *Hridayarogas* (cardiovascular disease) in much details and mentioned their treatment part also(4). Coronary Artery Disease(CAD) is one of the cardiovascular diseases. CAD affects Indians with greater frequency and at a younger age than counterparts in developed countries as well as many other developing countries. Age standardized CAD death rates in people 30-69 years old are 405 per 100000 in India . Also 50 percent of CAD related deaths in India occur in people below 70 years of age. India is estimated to have lost 8.7 billion 1998 international dollars in 2005 because of CAD, stroke and diabetes. These estimates increase to 54 billion 1998 international dollars by 2015. Hence we have to give attention towards CAD.

**Keywords:-** *Hridaya*, Coronary artery disease, Herbs

### Introduction:

Coronary Artery Disease is known to be the cause of greatest mortality. One fifth of the deaths in India are from Coronary Artery Disease. By the years 2020, it will account for one third of all deaths. Sadly many of these Indians will be dying young. Heart diseases in India occurs 10 to 15 years earlier than in the west. There are an estimated 45 million patients of Coronary Artery Disease in India. An increasing number of young Indians are falling prey to Coronary Artery Disease. With millions hooked to a roller-coaster lifestyle, the future looks even

more grim. There appears to be a steady increase in hypertention prevalence over the last 50 years, more in urban than rural areas. Hypertention is 25-30 percent in urban and 10-15 percent in rural area(5). Hence it is no more wise to postpone our attention till we are in the full grip of this disease, rather it will be advisable to focus our attention, invest our money , time and resources to prevent this agonizing and dreadful disease at the earliest.

Ayurved describe cardiovascular disorder in much details. *Charak samhita*, *Sushrut samhita* has clearly mentioned about cardiovascular disorder and have classified them in *vataj*, *pittaj*, *kaphaj*, *krumij* types. The word *dhamanipratichaya* has occurred in the context of atherosclerosis in *Sushrut samhita*. Ayurved scholars have clearly mentioned the causes of coronary artery disease. They focused mainly on diet, anger and emotion, which are the causative

\*Corresponding Author:

**Shirish D Gaddamwar**

Assistant Professor,

D.M.M.Ayurved College,

Shivaji Nagar, Arni Road,

Yavatmal(MH) 445001.

Email - [drshirish3@yahoo.com](mailto:drshirish3@yahoo.com)

factors of coronary artery disease(6).The patient who are diagnosed or wants to prevent coronary artery disease has to keep a control on all these factors. Unfortunately very less importance is given to these factors in management of coronary artery diseases.

### Management of Coronary Artery Disease:

The scope of ayurvedic herbs and some of the herbomineral compounds /remedies can be of great help for managing coronary artery diseases. This review makes an attempt to compile some of cardioprotective herbs and herbominerals from ayurveda and also give scientific account of use of ayurvedic cardioprotective herbomineral drugs.

Herbs like Garlic (*Allium sativum* L.) and its various forms reduce cardiovascular risk, including abnormal plasma lipids, oxidized low density lipoproteins (LDL), abnormal platelet aggregation and a high blood pressure. Stimulation of nitric oxide generation in endothelial cells seems to be the critical preventive mechanisms. Garlic may promote an anti inflammatory environment by cytokine modulation in human blood. Cardioprotective effects of dietary garlic are mediated in large part via the generation of hydrogen sulfide. Garlic derived organic polysulfides are converted by erythrocytes into hydrogen sulfide which relaxes vascular smooth muscles, induces vasodilation of blood vessels and significantly reduces blood pressure(7).

*Tinospora cordifolia* possess a dose dependent cardioprotection against ischemia –reperfusion induced myocardial injury and the cardioprotection may be due to its free radical scavenging activity or indirectly by enhancing the endogenous antioxidant levels or by protecting Mg<sup>2</sup> dependant Ca<sup>2</sup> ATPase enzyme or by antagonizing free radical mediated inhibition of sacrolemmal Na, K ATPase

activity or by Ca<sup>2</sup> channel blocking activity(8).

Saponins of *Tribulus terrestris* have the action of dilating coronary artery and improving coronary circulation. In a clinical trial 406 patients with coronary heart disease were treated, results showed that the total efficacious rate of remission angina pectoris was 82.3 percent and efficacious rate of ECG improvement (52.7 percent) was even higher than that of control group (35.8 percent) were observed(9).

*Terminalia arjuna* lowered systolic blood pressure and body mass index to a significant level and rise High density lipoprotein cholesterol only somewhat along with marginal improvement in left ventricular ejection fraction in stable angina patients(10).

Herbomineral drug like *Prabhakar vati* along with *lekhana basti* possesses potent antianginal and cardioprotective activities and it can be used effectively in the management to slow down the progress of pathogenesis of atherosclerosis leading to various coronary artery diseases specially stable angina(11).

Supplementation of *Shilajit* significantly reduces serum triglycerides level, cholesterol, LDL cholesterol and VLDL cholesterol levels and significant improvement in HDL cholesterol level(12). *Commiphora mukul* decreased the total cholesterol level, LDL, triglycerides and the total cholesterol and HDL cholesterol ratio(13). *Curcuma longa* is useful in endothelial inflammation and also helps to keep interleukins and TNF under control. *Draksharishta* is useful in keeping the oxidation of LDL under control(14). The herb *Gymnema sylvestre* possesses cardioprotective activity(15).

### Conclusion:

As the CAD prevalence was increasing day by day in India, lifestyle modification lie at the cornerstone of CAD primary and secondary prevention. Experts

routinely recommend the following lifestyle changes for management of CAD like avoiding high fat, sugar, salts food, regular exercise, stress management which can be achieved by meditation, following basic principle mentioned in ayurvedic granthas like *dincharya* (dialy regimen), *rutucharya*(season regimen) etc. The herbs and herbomineral drugs can be very useful in management of CAD at a low cost.

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