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Jamnagar, India



## **Souvenir**

Based on

**Prof. M.S. Baghel**

**Memorial Lecture Series**

**[February 09, 2021 – January 09, 2022]**

**Edited by Dr. Gopal Basisht**

**Foreword by Vd. Rajesh Kotecha**



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### FOREWORD

Prof. M. S. Baghel was a great visionary in the field of Ayurveda. He devoted his life for uplifting the standards of Ayurveda education and research. I remember him and pay tribute to his holy soul. He has been the founder member of the Charak Samhita New Edition Project initiated by Dr. Gopal Basisth with stalwarts of Ayurveda across India. This project is a milestone to change the views of scientists and researchers to read classical Ayurveda text to contemporary evidence-based Ayurveda on a single open-access platform. Prof. Baghel played a crucial role in establishing Charak Samhita Research, Training and Skill Development Centre in collaboration with I.P.G.T.& R.A.(now I.T.R.A.) Jamnagar. This Center is continuously involved in propagating Ayurveda across the globe. A lecture series, "Prof. M.S. Baghel Memorial Lecture Series," was organized to offer tribute to the legend. It included twelve lectures delivered by experts on the topics related to challenges in the healthcare field. The editorial team and speakers have converted the video lectures into articles to enrich the research database. It is a pleasure to read this souvenir of articles based on lectures delivered by international Ayurveda experts on critical areas of Ayurveda research and education.

The critical and challenging topics for Ayurveda clinical research and education are comprehensively described in this souvenir. This publication is a quality content with a mix of experience and evidence by eminent specialists of Ayurveda. I congratulate Dr. Gopal Basisth and Dr. Anup Thakar for conducting this unique lecture series and transforming the lectures into documentary evidence. I am sure that this Souvenir will be read and referred by the learners and scholars seeking knowledge of Ayurveda as a science.

२१ जून २०२२

(Rajesh Kotecha)

New Delhi  
23<sup>rd</sup> February, 2022



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(Institute of National Importance)

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### Preface

Prof. M. S. Baghel is immortal through his teachings and practical approach towards Ayurveda. He envisioned propagating Ayurveda on the global platform and devoted his life to this purpose. He played a significant role in uplifting the status of Ayurveda as a scientific evidence-based healthcare system. He has been instrumental in developing Charak Samhita New Edition on the wiki platform. This website is viewed in more than 180 countries and read by more than 15K readers per month. Prof. Baghel was the founder member and advisor of Charak Samhita Research, Training and Skill Development Centre (CSRTSDC). When he left the physical world on January 09, 2021, it was a heavy loss of all Ayurveda fraternity. The center's Advisory board decided to pay homage through a lecture series in his memories. It was decided to organize a monthly lecture on 9<sup>th</sup> day of every month till his first death anniversary.

The Prof.M.S.Baghel Memorial Lecture Series included twelve talks by eminent speakers on important healthcare topics. As Prof. Baghel was an internationally renowned personality, the experts on specific issues readily accepted the invitation. All the lectures were streamed live on the Facebook Page of the Centre. These lectures were well received by the global audience and have more than 10K views. The series was successfully completed on January 09, 2022. The video recordings were edited and posted on the YouTube channel. The team of CSRTSDC transformed these lectures into research-based documents with the help of speakers and published them online on the website for readers. A comprehensive collection of all these important articles is being published in this souvenir.

The critical and challenging topics for Ayurveda clinical research and education are elaborately described in this souvenir. We acknowledge the support of all speakers Prof.S.K. Sharma Khandel, Vaidya DilipGadgil, Prof. H. M. Chandola, Dr.Mukund Sabnis, Dr. Rohit Sane, Dr. S. H. Acharya, Dr. S.R. Narahari., Dr. Narayan Prakash, Prof. Vd. Upendra Dixit, Vaidya Ram Manohar and Prof. Dr. S.N. Gupta for their timely deliberations and expert talks. We hope this souvenir will be helpful for all learners of Ayurveda and serve the purpose of a reference manual on major challenges in the healthcare field. Ayurveda can provide a better solution in these areas, as discussed in the respective articles.



(PROF. ANUP THAKAR)  
DIRECTOR

# **Gopal K. Bassisht, MD**

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## **Editorial**

Prof. M. S. Baghel was a great teacher and researcher. I was impressed with his thoughtful deliberations. Being a modern physician, I was a new learner of Ayurveda. But, Prof. Baghel made the learning simplified. He encouraged me to learn fundamental principles of Ayurveda and include them in my clinical practice. We discussed many aspects of education and research in Ayurveda and healthcare. He was a key person who led me on the path for publication of Charak Samhita New Edition Project. He guided from time to time and made all his resources available for proper project implementation. Unfortunately, we lost him in mid-way. He will be remembered forever in the form of his contribution and dedication to this project.

The lecture series organized in his memory and publication of this souvenir is an effort to pay tribute to the stalwart. In the current global pandemic Covid-19, the article "Principles of management of Infectious diseases through Ayurveda" by Prof. S.K. Sharma Khandel gives insight towards empowering defense strategies to fight infectious diseases. The article on management of Cancer by Vaidya Dilip Gadgil focuses on preventing and treating malignancies through Ayurveda. The writing on the management of acid peptic diseases by Prof. H. M. Chandola provides comprehensive information about the most typical health problem.

Dr. Mukund Sabnis, a renowned expert in obesity management, has poured experience-based views in his article on the management of metabolic syndrome and obesity in Ayurveda. Another well-known cardiologist, Dr. Rohit Sane, has given precise information with published evidence on the ayurvedic management of cardiac diseases. The article on the management of neurological disorders by distinguished professor Dr. S. H. Acharya elaborates the scopes of Ayurveda services in neurology. Dr. S.R. Narahari, a dedicated researcher in dermatology, has put his experience and evidence together in writing on the management of skin diseases in integrative medicine.

Dr. Narayan Prakash covers the scope of the fast-developing research field of Ayurveda psychiatry in the article on the management of psychiatric diseases. Prof. Vd. Upendra Dixit, an eminent physician, wrote the experience-based protocols for managing medical emergencies in Ayurveda.

In the article on the management of rheumatic diseases, Vaidya Ram Manohar has narrated the fundamental concepts very nicely. Prof. Dr. S.N. Gupta, a renowned expert in managing kidney diseases, put forward his clinical practice experiences with scientific evidence. Prof. Anup Thakar precisely answers the challenges of practicing panchakarma to preserve health in the modern lifestyle in his article. We thank all speakers for their active participation and kind support. I hope this souvenir will be helpful for the learners of Ayurveda.



**Dr. Gopal K. Bassisht**  
**Orlando, Florida, U.S.A.**

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# Cardiac diseases

**Dr. Rohit Sane**  
**M.D. & C.E.O., Madhavbaug**  
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**Website link:**

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**Youtube link of recorded lecture:** [https://www.youtube.com/watch?v=Ij1s0Ng\\_UeA](https://www.youtube.com/watch?v=Ij1s0Ng_UeA)

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## Updates on management of cardiac diseases through Ayurveda

This article is based on lecture delivered by Dr. Rohit Sane in Prof.M.S.Baghel Memorial Lecture Series on June 09, 2021.

The major chronic diseases prevailing in India are cardiovascular disorders (CVD), diabetes, hypertension, obesity and dyslipidemia. Mortality due to cardiovascular disease is increasing substantially. In the year 1990, the mortality rate due to CVD in India was 15.2, which increased to 28.1 in 2016.<sup>[1]</sup> Despite the advancements in modern medicine, especially in treating CVD like angioplasty, bypass surgery, etc., the disease burden is increasing. Ayurveda can play a significant role in treating CVD as a lifestyle disorder and a non-communicable disorder.

The risk factors of CVD are diabetes, hypertension, and obesity. The burden of these lifestyle disorders is also high on the rise. As per the data available, 9.7% of the adult population in India has Diabetes.<sup>[2]</sup> Hypertension is present in 25% of urban and 10% of rural subjects in India. Stage I hypertension carries significant cardiovascular risk.<sup>[3]</sup> Therefore, it is essential to treat these comorbid conditions while treating CVD.

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## Importance of animal trials

In Ayurvedic classical texts, different treatment techniques and different drugs are mentioned for the treatment of heart disorders. This must be reproved per the current knowledge. Animal trials are necessary to understand the mode of action of the drug along with re-establishing its efficacy.

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## Antihypertensive herbs

Common Ayurvedic herbs used in the treatment of hypertension and their mechanism of action is shown in Table 1 below.

**Table 1: Herbs used in the management of hypertension**

<b>Herb</b>	<b>Latin Name</b>	<b>Mechanism of action</b>
Bramhi	Bacopa monnieri	Calcium channel antagonist
Shunthi	Zingiber officinale	Calcium channel antagonist
Vacha	Acorus calamus	ACE inhibitor
Bibhitaki	Terminalia bellirica	ACE inhibitor
Pippali	Piper longum	ACE inhibitor
Kalaajaji	Nigella sativa	Diuretic
Punarnava	Boerhavia diffusa	Diuretic

Since Bramhi and Shunthi are calcium channel antagonists they can be used for patients with systolic hypertension. Vacha, Bibhitaki and Pippali can be used in diastolic hypertension as they are ACE inhibitors. Kalaajaji and Punarnava are excellent diuretics to be used very effectively in the early phase of hypertension.

### **Anti-diabetic herbs**

Some of the Ayurvedic herbs used in diabetes management and their mechanism of action are shown in Table 2.

**Table 2: Herbs used in the management of diabetes**

<b>Herb</b>	<b>Latin Name</b>	<b>Mechanism of action</b>
Daruharidra	Berberis aristata	Hypolipidemic, insulin resistance
Amalaki	Phyllanthus emblica	Beta cell-protective & beta cell regenerative
Haridra	Curcuma longa	Hypolipidemic & Beta cell protective
Vishanika /Gudmar*	Gymnema sylvestre	Insulin secretagogues
Banaba/ Jarul	Lagerstroemia speciosa	Insulin secretagogues

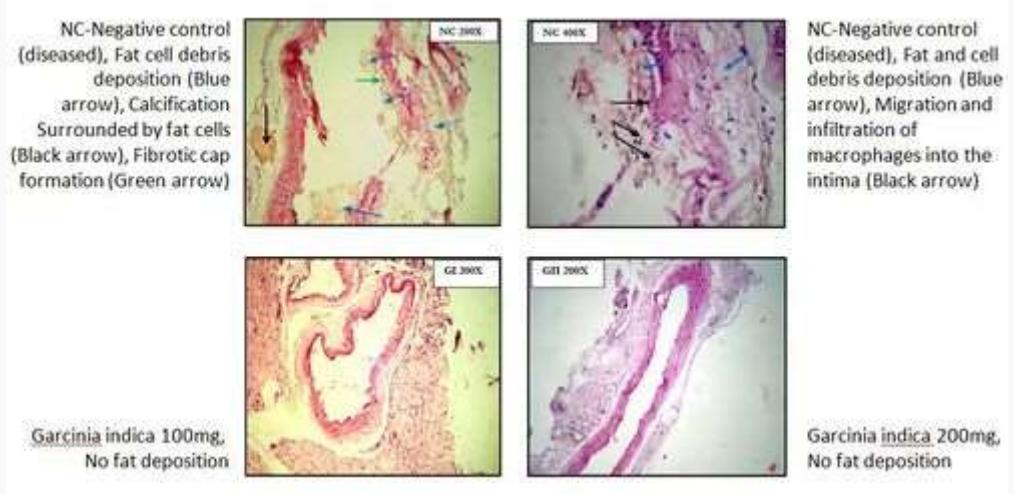
- Gudmar also has the capacity to produce a coat over the intestine so that the carbohydrate absorption through the gut gets reduced.

### **Herbs for management of coronary artery disease**

The coronary artery disease (CAD) is caused due to atherosclerosis. The deposition of cholesterol and fatty tissue form plaque in the endothelium of coronary arteries. This causes clogging or damage to the artery and hamper blood circulation to myocardium. Ayurvedic herbs are described as hridya (beneficial for heart) in [Charak Samhita Sutra Sthana 4/10]. Some of the researched herbs used in the management of coronary artery disease (CAD) and their mechanism of action are shown in Table 3.

**Table 3: Herbs used in the management of coronary artery disease**

Herb	Latin Name	Mechanism of action
Vrikshamla	Garcinia indica	Anti inflammatory, Hypolipidemic
Matulunga	Citrus medica	Anti inflammatory, Hypolipidemic
Amlavetasa	Rheum emodii	Anti inflammatory, Hypolipidemic
Pushkaramula	Inula racemosa	Anti inflammatory, Hypolipidemic

**Experimental studies on hridya herbs****Image 1: Effect of garcinia indica in atherosclerosis**

Various experimental studies are conducted to study the effect of herbs in reducing atherosclerosis. The animals were first fed with high fat, high cholesterol diet. As a result, the endothelium of vessels gets deposited with fatty tissues (atherosclerosis), which is considered as the primary cause for blockages. Then the same animals were fed with CAD reversal herbs like *Garcinia indica* (Vrikshamla) for six weeks. *Garcinia* treatment

protected the endothelium from atherosclerosis. The endothelium becomes intact without any fatty tissue deposition.<sup>[4]</sup>

### **Sampurna Hridaya Shuddhikaran (SHS) therapy**

A treatment protocol named “Sampurna Hriday Shuddhikaran” (Total Purification of Heart) is developed by an amalgamation of ayurvedic and modern medical knowledge. It is an interventional health model to improve the quality of life in chronic heart failure patients.

A single session of sampurna hridaya shuddhikaran (SHS) is of 90 minutes duration. A session of SHS includes four main procedures.

1. Oleation (snehana): It includes whole-body massage in the form of strokes from the periphery towards the heart. Sesame oil processed with Terminalia arjuna, Vitex nigundo and Dashamula (group of 10 herbs) is used for massage.
2. Fomentation (swedana): Fomentation is given by keeping the patient inside a wooden chamber. The vapor is produced out of decoction prepared with Dashamula.
3. Dripping decoction on chest/cardiac region (Hrudaydhara): The warm decoction prepared with Dashamula is dripped in a continuous stream from a height of 7-8 cm to the medial mediastinum region.
4. Therapeutic enema (basti): Decoction enema prepared with Terminalia arjuna, Acorus calamus, and Boerhavia diffusa is administered.<sup>[5]</sup>

### **Effects of SHS therapy**

#### **Improvement in quality of life and VO2 max**

VO2max is the measurement of the volume of oxygen that the body can utilize during physical exertion. In chronic heart failure, the person feels breathless after walking for a certain distance. A total of 692 chronic heart failure patients were recruited in a trial to assess the efficacy of SHS therapy. At the end of this therapy, the patients were assessed for quality of life. It is found that the quality of life improved substantially, and VO2 max was also improved.<sup>[6]</sup>

#### **Improvement in exercise tolerance**

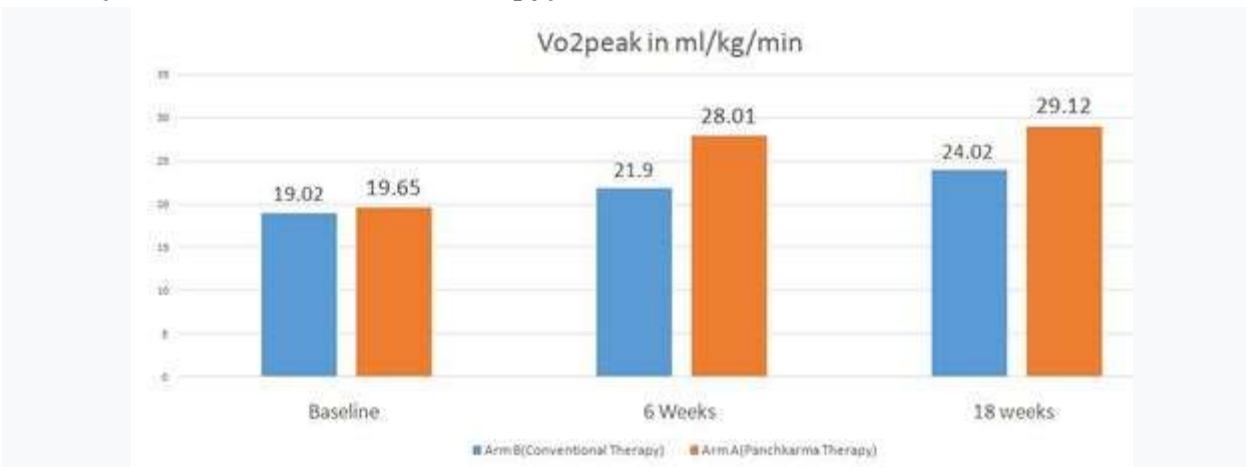
The American heart association prescribes the six-minute walk test (6MWT) for chronic heart failure (CHF) patients. Average persons can walk 350m in 6 minutes. However, patients with CHF are unable to cover that distance in 6 minutes. In a study on 200 patients of CHF, the SHS therapy with Madhavbaug Cardiac Rehabilitation Centre (MCRC) protocol on stress test showed improvement in cardiac effort tolerance of 132.1 seconds on the sixth day. The Sampurna Hridhay Shuddhikaran (SHS) model was observed very much effective in improving the exercise tolerance of Chronic Heart Failure patients. This improvement is independent of Age, Sex, and BMI of the study participants.<sup>[7]</sup>

### Improvement in ejection fraction

A prospective interventional study on 133 patients was conducted to assess the efficacy of SHS on the ejection fraction. The preintervention ejection fraction (39.43) was significantly increased to 45.98 after 30 days of Sampurna Hridaya Shuddhikaran treatment. SHS showed improvements in ejection fraction, myocardial thickness, and exercise tolerance.<sup>[8]</sup>

Effect of SHS with slightly modified protocols is studied in different research programs titled Heart Failure Reversal Therapy (HFRT) and Ischemia reversal program (IRP).

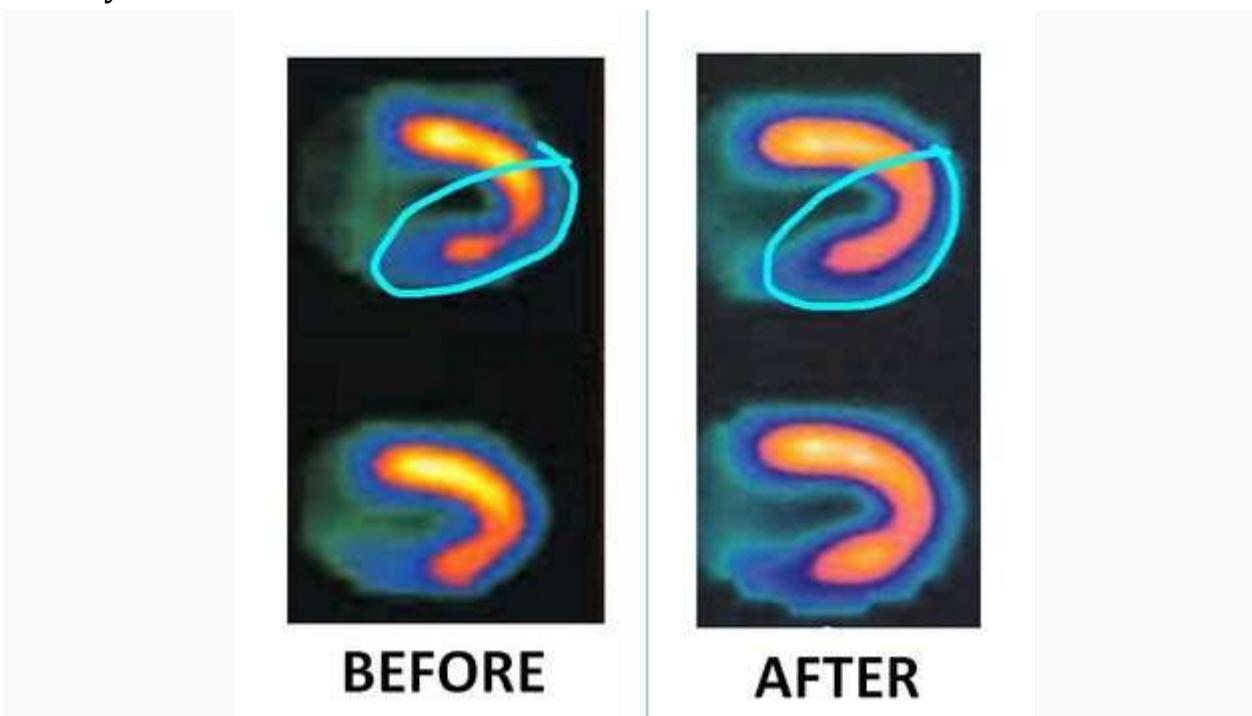
### HFRT (Heart failure reversal therapy)



**Image 2: Heart failure reversal therapy on VO2max**

In a randomized controlled trial, one group (Arm A) received HFRT (Heart failure reversal therapy) with conventional oral medications for heart failure. The other group (Arm B) received only conventional oral medications. VO2 max in Arm B group was 19.02ml/kg/min initially. After six weeks of conventional treatment, VO2 max increased to 21.9ml/kg/min. After 18 weeks, it again raised to 24.02 ml/kg/min. The initial VO2 max in Arm A patients was 19.65 ml/kg/min, almost equal to that of Arm B. After six weeks of therapy VO2 max raised to 28.01 ml/kg/min, and after 18 weeks of therapy, it again raised to 29.12 ml/kg/min.<sup>[9]</sup> [Image 2] This shows the significant advantage of HFRT over conventional treatment in heart failure.

### Efficacy in ischemic heart disease



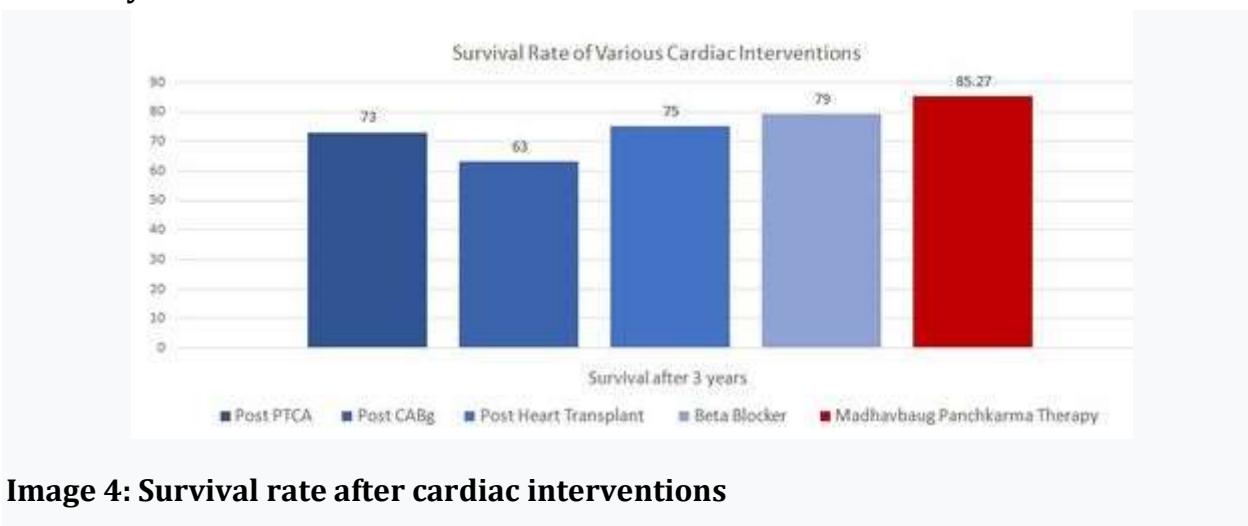
**Image 3: Ischemia Reduction on Myocardial Perfusion through SPECT MPI**

Stress Thallium test was applied to assess the reversal of ischemic changes in patients of CHF associated with myocardial ischemia. The radioactive isotope Thallium was injected into the bloodstream of cardiac patients. Gamma scanner was used to assess the circulation of thallium in the myocardium. After three months of ischemia reversal program, 30.33% of the reduction was observed in ischemia on Myocardial Perfusion through SPECT MPI.<sup>[10]</sup>

### Effect on left ventricular distress

Efficacy of Heart Failure Reversal Therapy (HFRT) in reducing left ventricular distress was studied. N-terminal pro-brain natriuretic peptide (NT-proBNP) was used as a marker to assess the effect of therapy in congestive heart failure (CHF) patients. The value of NT-Pro BNP increases with an increase in the severity of CHF. The study therapy, HFRT, including SHS protocol, was administered twice daily for seven days. Post-HFRT, decoction prepared with Terminalia arjuna, Acorus calamus, and Boerrhavia diffusa was administered for the next 12 weeks of follow-up. NT-proBNP levels were measured after a follow-up period of 90 days along with some other parameters like BMI, VO<sub>2</sub>peak (evaluated by cardiac stress test with modified Bruce protocol) and weight. The findings of the investigation revealed a significant reduction in NT-pro BNP levels (42.46%, p = 0.009) at the end of the follow-up period. The study also yielded significant improvements in VO<sub>2</sub>peak (50.96%, p = 0.004). The overall results suggest that HFRT can possibly be explored as add-on therapy or a feasible alternative for the effective management of CHF.<sup>[11]</sup>

## Mortality rate and survival



### Image 4: Survival rate after cardiac interventions

The survival rate of cardiac patients after coronary angioplasty after three years is 73%. After coronary bypass graft, the survival rate is 63%. After a heart transplant, it is 75%. Survival rate increases to 79% after taking beta-blocker drugs. The survival rate post three years of Ayurvedic panchakarma therapy at Madhavbaug rises above 85%.<sup>[12]</sup>

As per various published data, the survival rate of various cardiac interventions is shown below. [Image 4]

## Conclusion

Ayurvedic treatment shows an advantageous effect in treating chronic lifestyle disorders like diabetes, hypertension, and cardiovascular disorders. Ayurvedic treatment is implemented as a first line of therapy in these disorders; then, the mortality burden can be reduced significantly.

## Interactive session

**Q.** Please share the experience in the development of collateral circulation after Ayurvedic cardiac treatment

**Ans:** The basic assessment for the development of collateral circulation is the stress test. For e.g. as per Bruce protocol, an increase in walking time indicates that more blood is reaching the myocardium because of the improvement in collaterals. Global longitudinal score with 2D echo with four-chamber view should be -18 and beyond. The patient with scores -10, -8 suggests the patient is ischemic. After the therapy, if the score is improving like -14, -16 etc., the collaterals are improving. But a correct identification of the cause for improvement in functions, whether it is due to collateral improvement or whether it is due to reduction in a block, is challenging to determine.

**Q.** Do you observe any relation between prakriti (body constitution) and its susceptibility to cardiac disorders?

**Ans:** Prakriti and the involvement of dosha are very much influencing the development of cardiac disorders. Typical presentations explained for different kinds of hridroga (cardiac disorders) can be seen in patients. For eg. In vataja hridroga the pain will be severe. It may be cutting, stabbing, tearing etc., in nature. In kaphaja hridroga pain will be minimal. The other symptoms like excessive salivation, heaviness in the chest etc., are more predominant. In pittaja hridroga burning in the sternum/epigastric region is the main presenting feature. The classical treatments mentioned for these individual types of cardiac disorders give an excellent result.

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