

Regional Wall Motion Improvement Documented by Serial Echocardiography after Ayurvedic Care: A Case Report

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Case Report

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Abstract

Regional wall motion abnormalities (RWMA) are objective indicators of impaired myocardial contractility and are commonly associated with ischemic heart disease or myocardial injury. Although conventional management aims to stabilize cardiac function and prevent disease progression, documented reversal of established functional abnormalities remains uncommon. Ayurveda emphasizes restoration of physiological balance and tissue nourishment through individualized therapeutic interventions.

Keywords: Ayurveda, Regional Wall Motion Abnormality, Echocardiography, Left Ventricular Ejection Fraction, Myocardial Dysfunction, Integrative Cardiology, Case Report

Introduction

Regional wall motion abnormalities are recognized markers of impaired myocardial contractility and often indicate ischemic injury or myocardial dysfunction. Conventional treatment primarily focuses on pharmacological optimization and prevention of disease progression [1]. Ayurveda approaches cardiovascular disorders by correcting systemic metabolic dysfunction, improving circulation, optimizing tissue nourishment (Dhatu Poshana), and restoring physiological homeostasis. This report presents a case demonstrating measurable improvement in myocardial function following comprehensive Ayurvedic management [2-3].

Case Presentation

A 65-year-old female presented with progressive exertional dyspnea, easy fatigability, and reduced exercise tolerance, prompting cardiovascular evaluation. Baseline transthoracic echocardiography, performed on 2 September 2024 at IQRAA International Hospital and Research Centre,

demonstrated regional wall motion abnormalities involving the distal interventricular septum and left ventricular apex, consistent with hypokinesia of these segments. The left ventricular ejection fraction (LVEF) was estimated at 55% using the Teichholz method. Left ventricular internal diameter measured 40 mm at end-diastole and 25 mm at end-systole, with no significant left ventricular hypertrophy reported. Additional findings included Grade I left ventricular diastolic dysfunction and mild mitral regurgitation. No pericardial effusion, intracardiac thrombus, or vegetation was identified [4-8].

The baseline cardiac troponin concentration was reported as 512. This result may indicate myocardial injury depending on the assay-specific reference range and clinical context. In conjunction with the regional wall motion abnormalities and presenting symptoms, the elevated troponin warranted consideration of an ischemic myocardial process. However, the available findings alone do not establish acute myocardial infarction or confirm obstructive coronary artery disease. The patient's cardiovascular risk factors, electrocardiographic findings,

conventional medication history, and investigations for coronary artery disease or myocardial ischemia should be documented where available. In the absence of definitive coronary evaluation, the underlying cause of the regional wall motion abnormalities remains uncertain [9-13].

Ayurvedic Clinical Assessment

Based on classical Ayurvedic principles, disturbances involving Rasa Dhatu, Rakta Dhatu, Pranavaha Srotas, Rasavaha Srotas, cardiac tissue nourishment and systemic metabolic regulation were identified. Treatment aimed to correct metabolism, improve circulation, enhance myocardial nutrition, and restore physiological balance.

Ayurvedic Intervention and Treatment Protocol

Medicine / procedure	Dose or preparation	Route / method	Timing
Mahadhanwantharam Gulika	2 tablet	Sublingual	Initial treatment phase
Urovasthi	Dhanyamlam	External application over the chest region	Initial treatment phase
Shunthyadi Choornam	15 g	Used for enema preparation	Initial treatment phase
Hridroga Ratnam	100 mg TID with hotwater	Internal administration; route to be confirmed	Introduced later
Dhanyaka Shunthyadi Kashayam	60 mL, three times daily	Oral administration	Introduced later

Table 1: Ayurvedic medicines and therapeutic procedures administered to the patient.

Treatment was implemented in staged phases comprising metabolic correction, systemic channel regulation, and cardiac functional support. Management included individualized Ayurvedic internal medications, supervised therapeutic procedures, dietary regulation, lifestyle modification, and regular clinical monitoring [14-17].

demonstrated complete resolution of distal septal and apical hypokinesia, normalization of left ventricular systolic function, improvement of LVEF from 55% to 71%, absence of pulmonary hypertension, trivial mitral regurgitation, and normal cardiac chamber dimensions. Clinically, the patient reported marked reduction in breathlessness, improved stamina, better exercise tolerance, and enhanced quality of life [18].

Outcome

Follow-up echocardiography (15 December 2025)

Parameter	Baseline (02 Sep 2024)	Follow-up (15 Dec 2025)
LVEF	55% (Teichholz)	71.2% (method not specified)
LVIDd	40 mm	37.7 mm
LVIDs	25 mm	22.7 mm
LV end-diastolic volume	Not reported	60.66 mL
LV end-systolic volume	Not reported	17.47 mL
Stroke volume	Not reported	43.19 mL
Fractional shortening	Not reported	39.82%
Regional wall motion	Distal septal and apical hypokinesia	No abnormality reported
Diastolic function	Grade I dysfunction	Grade I dysfunction
Mitral regurgitation	Mild	Trivial

Table 2: Comparison of baseline and follow-up echocardiographic findings.

Discussion

This case documents an improvement in regional wall motion on serial echocardiographic evaluation during the period of Ayurvedic care. Although the observed changes are clinically noteworthy, the underlying mechanisms remain uncertain. Improved myocardial perfusion, modulation of inflammatory activity, changes in endothelial function, and alterations in myocardial metabolism may be considered as hypothetical explanations; however, these mechanisms were not directly assessed in this patient and cannot be inferred from the echocardiographic findings alone [19].

Furthermore, differences in the reported LVEF measurement methodology between the baseline and follow-up examinations limit direct quantitative comparison. As this is a single case report without a control group, a causal relationship between the Ayurvedic intervention and the observed cardiac changes cannot be established [20]. Nevertheless, this observation may support further prospective research incorporating standardized echocardiographic assessment, appropriate evaluation for coronary artery disease and myocardial ischemia, and direct investigation of proposed biological mechanisms.

Conclusion

This case demonstrates measurable improvement in myocardial function documented through serial echocardiography following individualized Ayurvedic care. The findings support further systematic investigation of Ayurvedic interventions using standardized modern cardiac imaging [21-22].

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