

Case 4

BRIEF HISTORY

- 1. Mr LC J, 65 year's old** and a very pleasant person, visited us on February 18, 2000 for consultation and advice regarding the following complaints :-
 - (a) Angina and breathlessness on walking.
 - (b) Could not wear any footwear as these hurt his soles.
 - (c) Hypertension.
 - (d) PR varying between 80 to 96 NSR.
- 2. In 1987 he had an episode of angina and since 1988 had been on various prescribed medicines. Though he had been advised an angiography, he never got the required test done.**
- 3. On 29/01/2000 stress echocardiography was done which was positive. The report is as follows :-**

(a) ECG

DIMENSIONS	NORMAL	DIMENSIONS	NORMAL
AO (ed)	34mm (1.5 cm/cm ²)	IVS (ed)	10 mm (0.6 – 1.2 cm)
LA (ed)	26 mm (1.5 cm/cm ²)	LVPW (ed)	10 mm (0.6 – 1.2 cm)
RVID (ed)	20 mm (0.9 cm/cm ²)	LV Ejection Fraction	60% (0.62 – 0.85)
LIVD (ed)	42 mm (2.6 – 3.4 cm/cm ²)	% F	33% (28% - 42%)
LVID (es)	21 mm		

MORPHOLOGICAL DATA

Mitral Valve	AML	Normal	Interatrial Septum	Normal
		Normal	Interventricular Septum (concentric LVH)	Mild
Aortic Valve		Normal	Pulmonary Artery	Normal
Tricuspid Valve		Normal	Aorta	Normal
Pulmonary Valve		Normal	Right Atrium	Normal
Right Ventricle		Normal	Left Atrium	Normal
Left Ventricle		Normal		

2-D ECG AND COLOUR DOPPLER FINDINGS:

Sclerotic aortic valve. Normal mitral valve. LV was normal sized. Mild concentric LVH was seen. Good LV systolic Function. LV wall motion was normal. LVEF = 60%. RV was normal sized with good RV function. No pericardial Effusion. No clot in LA or LV.

COLOUR FLOW MAPING:

Trace MR

DOPPLER STUDIES:

A/E of 0.4 on the mitral Doppler spectral trace.

Normal LV compliance.

IMPRESSION:

Normal LV size. Mild concentric LVH. Good LV systolic function. No LV wall motion abnormality. LVEF =60%.Sclerotic aortic valve, no AS/AR. Trace MR. Good RV function. No Pericardial effusion. No clot in LA or LV.

(b) STRESS ECG REPORT (TREAD Mill Test)

Patient could exercise for 09 minutes and 05 seconds of the Bruce Protocol and achieved a workload of 10 mets. He attained a peak heart rate of 159 beats/minute which is 101% of the predicted maximum. The exercise was terminated owing to ST-T changes and attainment of target heart rate. There was no classical angina. Clinically the blood pressure response was normal (BP 190/80) and there was no S3 and S4 gallop in the recovery period. In the pre exercise ECG there was sagging ST in leads 2,3 aVF and 1.1 – 1.2 mm. At peak exercise there was 3.4-mm ST segment depression in leads 2,3 aVF and 1.2 – 2.3 mm in leads V4V6. At one minute in the recovery 1.0 – 1.1-mm upsloping ST segment depression in leads 2,3 aVF. At three minutes in the recovery 1.5 – 1.8 mm down sloping ST segment depression in leads 2,3 aVF and 1.1 mm in leads V5.

IMPRESSION:

Moderately positive ST segment response for reversible ischaemia. Good exercise tolerance.

4. On 04/02/2000 RGCI was carried out which revealed Tripple Vessel Disease as per the appended report.
5. After carrying out complete blood profile tests, the patient commenced Chelation Therapy treatment on 06/02/2000. After the 10th sitting he was not only able to don footwear without discomfort, but was also able to walk around comfortably without any breathlessness. Upto 09/07/2000 he was given 20 sittings of Chelation treatment.

6. On 27/08/2000 the patient underwent routine tests at Apollo Hospital. The results are as follows :-

(a) ULTRA SOUND WHOLE ABDOMEN

The liver is normal in size and outline. It shows a uniform echotexture. No obvious focal or diffuse pathology noted. Intra and Extra Hepatic Biliary passages not dilated.

Gall Bladder normal in size with normal wall thickness and no evidence of calculi. Pancreas is normal in size and echogenicity with distinct outline. No obvious focal lesion, calcification or ductal dilatation noted.

Spleen is normal in size and echogenicity.

Both kidneys are normal in position, outline and echogenicity. No evidence of calculi or calyceal dilatation seen on either side. Right kidney measures 11.2 cm and the left 11.1 cm.

No evidence of ascites or obvious lymphadenopathy.

Both diaphragms show normal movements with no evidence of pleural effusion.

Urinary Bladder normal in size and outline. No evidence of any obvious intraluminal or perivesical pathology. Pre void bladder measures 256 cc. Post void bladder volume measures 135.35 cc (52.87% significant).

The Prostate is enlarged in size. Volume is 52.9 cc. It shows a uniform parenchymal echogenicity and smooth outlines.

The Seminal Vesicles are normally visualised.

IMPRESSION: Enlarged prostate with significant post void residue.

(b) STRESS ECHO CARDIOGRAPHY REPORT

DIMENSIONS

NORMAL

DIMENSIONS

NORMAL

AO (ed) 31 mm	(1.5 cm/cm ²)	IVS (ed)	13mm (0.6 – 1.2 cm)
LA (ed) 32 mm	(1.5 cm/cm ²)	LVPW(ed)	13mm (0.6 – 1.2 cm)
RVID(ed) N	(0.9cm/cm ²)	LV Ejection Fraction	12 mm (0.6 - 1.2 cm)
LVID(ed) 44 mm	(2.6-3.4 cm/cm ²)	% FD	66% (0.62 – 0.85)
LVID(es) 26 mm			

MORPHOLOGICAL DATA

Mitral Valve	AML	Normal	Interatrial Septum	Normal
	PML	Normal	Interventricular Septum	Mild
Aortic Valve		Normal (concentric LVH)	Pulmonary Artery	
Tricuspid Valve		Normal		Normal
Pulmonary Valve		Normal	Aorta	Normal
Right Ventricle		Normal	Right Atrium	Normal
Left Ventricle		Normal		

2-D ECG AND COLOUR DOPPLER FINDINGS

Mitral and aortic valves were normal. Mild concentric LVH. Normal sized LA and LV. Good LV and RV systolic function. No regional LV wall motion abnormality. LVEF = 66%.

COLOUR FLOW MAPPING : No valvular regurgitation.

DOPPLER STUDIES:

A/E = 0.8 on the mitral Doppler spectral trace.

Decc. Time = 110 m/sec. **Decc. Slope** = 628 m/sec.

P1/2 = 34.2 m/sec. is consistent with normal LV compliance.

SV = 60 ml

HR = 90 b/min

CO = 5.4 l/min

IMPRESSION: Mild concentric LVH. Good LV and RV systolic function. No regional LV wall motion abnormality. LVEF = 66%.

STRESS ECHOCARDIOGRAPHY

Resting Echo :

Reason : LVH with ST-T changes. To assess for reversible ischaemia.

LV Wall motion	Normal
RV wall motion:	Normal
LVEF:	66 %
WMSI:	100 %
Normal myocardium	0/3
Tricuspid Regurgitation	0/3
Stress Echo:	
LV wall motion	Normal
RV wall motion	Normal
LVEF:	78%
WMSI:	0.6 %
Normal myocardium	100%
Myocardium at risk :	None
Mitral Regurgitation	0/3
Tricuspid Regurgitation	0/3

Coronary artery territories likely to be involved: None

IMPRESSION: IMPRESSION: This stress ECG is negative for exercise induced new wall motion abnormality. Overall there was a good increase in the global LV systolic function with increase in LVEF from 66% to 78%.

7. After a thorough evaluation, the cardiologist stopped all his medication.

8. On 05/01/2001, at about 10.00 AM, the patient experienced vomiting and a fast and irregular heartbeat. He took a sorbitrate and blanked out for about 10 minutes. I visited his residence at 1400 hours and on discovering that he had Atrial Fibrillation, had him admitted to Escorts Hospital. He was put on a course of Metoprolol and stabilised by the next morning. The attending physician suggested an angiography since it was felt that with the Q wave changes there could be a clot. The patient was advised to undergo an echo and angiography. The results were :-

(a) Echo

PROCEDURES : M-MODE/2D/DOPPLER/COLOUR/CONTRAST

MEASUREMENTS:		NORMALS
Aortic Root Diameter	3.3 cm	2.0-3.7 cm < 2.2 cm/M2
Aortic Valve Opening	2.0 cm	1.5-2.6 cm
Right Ventricular Dimension		0.7-2.6 cm < 1.4 cm/M2
Right Ventricular Thickness		0.3-0.9 cm
Left Atrial Dimension	3.3 cm	1.9-4.0 cm < 2.2 cm/M2
Left Ventricular ED Dimension	3.5 cm	3.7-5.6 cm < 3.2 cm/M2
Left Ventricular ES Dimension	1.8 cm	2.2-4.0 cm
Interventricular Septal Thickness	ED 1.4 ES 1.8 cm	0.6-1.2 cm
Left Vent. PW Thickness	ED 1.4 ES 2.1 cm	0.5-1.0 cm

IVS/LVPW

INDICES OF LEFT VENT. FUNCTION :

Mitral E-Septal Separation		< 0.9 cm
Minor Axis Shortening		24.42 %
LV Ejection Fraction	60 %	60 + 6.2%

IMAGING

M mode examination revealed normal movement of both mitral leaflets during diastole . No SAM or mitral valve prolapse is seen. Aortic cusps are not thickened and closure line is central. Tricuspid valve is normal. Pulmonary valve is normal. Aortic root is normal in size. Dimensions of left atrium and left ventricle are normal. Concentric left

ventricular hypertrophy present. 2D imaging in PLAX, SAX & apical 4 'C' views revealed a concentric left ventricular hypertrophy. Movement of septum, posterior and lateral walls is normal. Global LVEF is 60%. Mitral valve opening is normal. No evidence of mitral valve prolapse is seen. Aortic valve has three cusps and its opening is not restricted. Tricuspid valve leaflets move normally. Pulmonary valve is normal. Interatrial & interventricular septa are intact. No intracardiac mass or thrombus is seen. No pericardial pathology is observed.

DOPPLER

MV : 77 cm/sec

AoV : 113 cm/sec

TV : 66 cm/sec

PV : 116 cm/sec

MR : Mild

AI : Nil

PR : Mild

PI : Nil

COLOUR FLOW :

Colour flow mapping revealed :-

- Mild MR
- Mild TR

FINAL DIAGNOSIS

2d colour Doppler examination revealed :-

1. Concentric left ventricular hypertrophy. No LV regional wall motion abnormality. Global LVEF 60%.
2. Mild MR and TR. PASP 41 mmHg.
3. No mass/clot/pericardial effusion.

(b) Angiography report : "Normal Coronary Arteries" and "LVNormal"

9. He has been diagnosed to have essential hypertension and is currently on Betacard 50mg and Cardace 5mg for controlling his hypertension. His general condition is OK.