

Case 1

Brief History

1 **Mr A J, 46 years old** and weighing **110 kgs**, visited us on March 03, 2000 with the following complaints :-

- (a)
 - Intermittant angina pain for which he used to take sorbitrate.
 - Difficulty in walking, breathlessness, heaviness in the chest and palpitations.

(b) Abnormal sweating. He used to sweat even while taking a cold bath.

2 On 08/03/2000 he underwent an ECG at Apollo Hospital with the following results :

DIMENSIONS	NORMAL	DIMENSIONS	NORMAL
Ao (ed) 30 mm	(26-34 mm)	IVS (ed) 10 mm	(07-10 mm)
LA (es) 42 mm	(27-35 mm)	LVPW (ed) 10 mm	(07-10 mm)
RVID (ed) N		EF 20 %	
LVID (ed) 81 mm	(37-49 mm)	% FD 14 %	(28%-42%)
LVID (es) 66 mm			

MORPHOLOGICAL DATA

Mitral Valve :	AML	Normal	Interatrial septum	Normal
	PML	Normal	Interventricular septum	Normal
			Pulmonary Artery	Normal

Normal
Normal
Normal
Hugely dilated.

Aorta
Right Atrium
Left Atrium

Normal
Normal
:Moderately dilated.

2-D ECHOCARDIOGRAPHY AND COLOR DOPPLER FINDINGS :

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Mild MR 1/3
Mild TR 1/3

DOPPLER STUDIES :

A/E 1.5 on the mitral Doppler spectral trace.

Decc Time - 125 m/sec.

Decc Slope - 644 cm/sec²

P1/2 time - 34.5 m/sec. Is consistant with moderately elevated LVEDP

SV - 60 ml.

HR - 105 b/min.

CO - 6.1 l/min.

IMPRESSION :

Severe generalised global LV hypokinesis of a hugely dilated LV with markedly reduced global LV systolic function. LVEF – 20%. Good RV function. No LV thrombus. Moderately elevated LVEDP. Mild MR.

3. **Summary of the R G C Imaging carried out on 16/03/2000 is as under :-**

INDICATION

To detect CAD.

PRESENT COMPLAINT

Increase in HR, PEP, RZ, PV, PEPI, OS2I, CO, CI, SV, SVI, LVSER

A drop in HEATH, ACI, RDT.

CARTOGRAPHY PROFILE

Is suggestive of CAD

VESSEL STATUS :

PRESENT COMPLAINT : Breathlessness, palpitation, heaviness in chest & sweating

HAEMODYNAMIC CHANGES NOTED : Increase in HR, PEP, RZ, PV, PEPI, OS2I, CO, CI, SV, SVI,

LVSERI. : A drop in HEATH, ACI, RDT.

CARTOGRAPHY PROFILE : Is suggestive of CAD.

VESSEL STATUS :

LAD BRANCH :- SIGNIFICANT DISEASE IN MID-SEGMENT.
RCA BRANCH :- SIGNIFICANT DISEASE IN PROXIMAL SEGMENT.
LCX BRANCH :- SIGNIFICANT DISEASE IN MID-SEGMENT, TIP OF LCX AND OM2 BRANCH.

CORONARY RESERVE : Is inadequate. Myocardial oxygen demand at rest is WNL.

ANS PREDOMINANCE : Predominantly parasympathetic.

L.V. PERFORMANCE : Contractile power - 2.554 W.
Recoil power - 2.346 W.
C.O. - 6.84 Lts/min.
LVSW - 116.49 gm/min.
LVEF - See beat to beat haemodynamics.

MYOCARDIAL JEOPARDY : Global myocardial blood flow 100.27 ml/min/100 gms.

COMPROMISED BLOOD FLOW IS SEEN IN ALL TOPOGRAPHICAL SEGMENTS OF MYOCARDIUM.

IMPRESSION

: IHD. Significant flow limiting lesion detected in R.G.C.I.

4. Chelation therapy was commenced on April 05, 2000. An electrocardiogram carried out on 09/04/2000 revealed :-

- (a) Normal sinus rhythm.
- (b) Left atrial enlargement.
- (c) Left ventricular hypertrophy with repolarization abnormality.
- (d) Inferior infarction, age undetermined.
- (e) Abnormal ECG.

5. After 23 sessions of chelation therapy, the patient underwent a Dobutamine Stress Echocardiograph test on 19/12/2000. The report is as follows :-

DIMENSIONS**NORMAL**

AO (ed)	31 mm	(1.5 cm/cm ²)
LA (ed)	39 mm	(1.5 cm/cm ²)
RVID (ed)	N	(0.9 cm/cm ²)
	30 % (0.62-0.85)	(2.6-3.4 cm/cm ²)
LVID (es)	55 mm	

DIMENSIONS**NORMAL**

IVS (ed)	12 mm	(0.6-1.2 cm)
LVPW (ed)	14 mm	(0.6-1.2 cm)
LV Ejection Fraction	30 %	(0.62-0.85)
% FD	18 %	(28%-42%)

MORPHOLOGICAL DATA

Mitral Valve	:	AML	Normal	Interatrial Septum	Normal
PML			Normal	Interventricular Septum	Mild
			Normal	Pulmonary Artery	Normal
			Normal	Aorta	Normal
			Normal	Right Atrium	Normal
			Normal	Left Atrium	Mild to moderately dilated.
			Markedly dilated		

2-D ECHOCARDIOGRAPHY AND COLOR DOPPLER FINDINGS :

Mitral and aortic valves were normal. Mild concentric LVH. Mild to moderately dilated LA and markedly dilated LV. There was moderate to marked generalised global LV hypokinesis with moderate to markedly reduced global systolic function. LVEF = 30%. Good RV function. No LV thrombus.

COLOR FLOW MAPPING :

Mild MR 1/3.

DOPPLER STUDIES :

AE = 0.8 on the mitral Doppler spectral trace.

Decc. Time = 150 m/sec.

Decc. Slope = 467 m/sec.

P 1/2 = 36.4 m/sec. Is consistent with mildly elevated LVEDP.

SV = 70 ml.

HR = 55 b/min

CO = 3.9 l/min.

IMPRESSION :

Mild concentric LVH. There was moderate to marked global LV hypokinesis with moderate to markedly reduced global LV systolic function. LVEF = 30%. Good RV function. No LV thrombus. Mildly elevated LVEDP.

DOBUTAMINE STRESS ECHOCARDIOGRAPHY

RESTING ECHO :

Reason : LV dysfunction and dilated LV. To assess for reversible ischaemia.
LV wall motion : Normal
RV wall motion : Normal
LV Ejection Fraction : 30 %
WMSI :
% of normal myocardium :
Mitral Regurgitation : 1 – 2/3
Tricuspid Regurgitation : 0/3

STRESS ECHO ;

LV wall motion : Good increase in the global LV systolic function with
dobutamine infusion.
RV wall motion : Normal
LV Ejection Fraction : 50 %
WMSI : 1.0
% Normal myocardium : 100 %
Myocardium at risk : None
Mitral Regurgitation : 0/3
Tricuspid Regurgitation : 0/3
Coronary artery territories likely to be : No reversible ischaemia.
Involved.

IMPRESSION :

This dobutamine stress echocardiogram is negative for dobutamine induced new LV wall motion abnormality. The pre-existing LV dysfunction showed good increase in the LV contractility with increase in LVEF from 30% to 50%. There was no induced regional LV wall motion abnormality. Overall, picture consistent with cardiomyopathy response.

6. A Dobutamine Stress ECG was also carried out on 19/12/2000 with the following results :-

(a) Report :

Dobutamine Stress ECG was performed on the 46 years old male patient with history of LV dysfunction. The purpose of this study was to observe for any evidence of reversible ischaemia. This procedure was performed using graded increments of dobutamine dose infusion beginning at 2.5 microgram Kg/minute and going upto 30 microgram Kg/minute. Atropine of 0.3 mm was used in this study. There was a maximum heart rate of 136 beats/minute which is 78% of the predicted maximum. The infusion was terminated owing to peak dose of dobutamine being attained. In the basal ECG there was no significant ST segment change. At peak dobutamine infusion also there was no significant ST segment change occurrence.

(b) Impression :

Negative dobutamine stress ECG for reversible ischaemia. To be correlated with respect to the clinical profile and with the findings of Dobutamine Stress Echocardiography.

7. The tremendous improvement in the overall condition after chelation therapy is quite apparent.

