

## Peripartum Cardiomyopathy: Echocardiographic Predictors of Functional Recovery

Rafael Kuperstein<sup>1</sup>, Michael Arad<sup>1</sup>, Michal Simchen<sup>2</sup>, Yair Frenkel<sup>2</sup>, Hagit Shani<sup>2</sup>,  
Micha Feinberg<sup>1</sup>, Dov Feimark<sup>1</sup>

<sup>1</sup> Leviev Heart Center, <sup>2</sup> The Division of Maternal Fetal Medicine, Department of Obstetrics and Gynecology, Sheba Medical Center, Sackler School of Medicine, Tel Aviv University, Tel-Aviv, Israel

**Background:** Peripartum cardiomyopathy (PPCM) is defined as the onset of cardiac failure without identifiable cause 1 month pre, to 5 months post-partum. Subsequent pregnancy is hazardous in these patients but may be considered after recovery of left ventricular (LV) function.

**Methods:** We studied women with PPCM treated in the Leviev Heart Center between 1998-2008 to identify the predictors of LV function recovery (LVEF $\geq$ 50% on follow-up). All women laboring at our hospital during 2007(n=10,370) were used as controls.

**Results:** 29 women were diagnosed with PPCM (11% of our dilated cardiomyopathy database). Mean age, primiparity and hypertensive complications were higher compared with controls (32 $\pm$ 7 vs 30 $\pm$ 5 years; 59% vs. 37.5% and 45% vs. 3.4% respectively, p<0.001 for all). Follow-up time ranged 1-117 months (26 $\pm$ 32mo).

Ten of 23 (43%) with adequate echocardiographic follow-up improved LVEF.

	<b>Improvers (n=10)</b>	<b>Non-improvers (n=13)</b>	<b>p</b>
Age(years)	36 $\pm$ 6	28 $\pm$ 6	0.005
Baseline LVEF%	32 $\pm$ 9	26 $\pm$ 8	0.08
LVEDD(mm)	57 $\pm$ 7	52 $\pm$ 5	0.08
LVESD(mm)	39 $\pm$ 6	47 $\pm$ 6	0.005
IVS(mm)	10.4 $\pm$ 1.8	8.2 $\pm$ 1.2	0.002
PW(mm)	9.1 $\pm$ 1.0	8.1 $\pm$ 1.5	0.1
LA(mm)	39 $\pm$ 7.5	39 $\pm$ 7	0.9
Follow up LVEF%	56 $\pm$ 4	36 $\pm$ 8	<0.0001

LVEF, LV ejection fraction; LVEDD, LV end-diastolic dimension; LVESD, LV end-systolic dimension; IVS, inter-ventricular septal width; PW, posterior wall width; LA, left atrial diameter.

There were no differences in height, weight, BSA or BMI.

**Conclusions:** Women who develop PPCM tend to be older primigravidas, and are often hypertensive. Nearly half recover LV function. Younger age, larger ventricle and thinner walls are associated with a worse prognosis and may be a clue for presence of a preexisting cardiomyopathy.