

**[420] Improvement in Left Ventricular Systolic and Diastolic Functions with Enhanced External Counterpulsation in Patients with Heart Failure Is Sustained at One Year**

**Anil K. Gothwal, Parvesh Jaguri, Puneet Sidhu, Sanjay Mittal Cardiology, Escorts Heart Institute & Research Centre, New Delhi, India**

Enhanced external counterpulsation (EECP) is a new emerging treatment for CHF, approved by FDA for the purpose. The standard treatment course of 35 sessions is shown to improve functional status, quality of life, left ventricular systolic and diastolic functions. However there is no information on long-term effects on these echocardiographic parameters.

**Methods**

We prospectively studied the exercise capacity and left ventricular performance of 35 consecutive patients with CHF, coronary artery disease and refractory angina treated with EECP at our institute. Echocardiography and 6 minute walk test before and after 35 hours of EECP treatment was done and repeated after one year. Statistical analysis using student - t test was done.

**Results**

The average age of the patients was 62±8.9 years, 94.7% were males, 61.5% had prior MI, 65.8% had HTN, 42.1% had Diabetes Mellitus and 36.8% were active smokers. 6- minute walking distance improved significantly ( $p < 0.0001$ ) from 468.94 ± 324.5 meters at baseline to 1056 ± 243.1 meters on completion of 35 hours of EECP treatment and was sustained to 1028.79 ± 265 ( $p = 0.51$ ) meters at one year on follow up. Quality of life questionnaire (graded 1 to 5, 1 best and 5 worst) improved from 3.42 ± 0.8 at baseline to 3.08 ± 0.9 on 35<sup>th</sup> day and to 3.09 ± 0.98 at one year. Changes in echocardiographic parameters are shown in the table.

**Conclusions**

Improvement in clinical, Left ventricular systolic and diastolic parameters is observed in CHF patients with completion of 35 hours of EECP treatment and the effects are sustained at one year.

**Change in Echo Parmeters with EECP**

Parameter	Base	Post EECP	Followup
LVEF%	41.92 +/- 13.4	46.49 +/- 12.7 *	43.12 +/- 12.9 #
LVEDD (cm)	5.12 +/- 0.7	4.96 +/- 0.7 *	5.03 +/- 0.8 #
LVESD (cm)	4.06 +/- 1	3.96 +/- 0.8	3.9 +/- 1 #
Mitral E/A Ratio	1.62 +/- 1.4	1.24 +/- 0.75	1.24 +/- 0.8 #

\*  $p < 0.05$ , # p Value Not Significant

Tuesday, September 12, 2006

**Poster: Clinical Care/Management**

[Close Window](#)