

## Increased left ventricular mass in pre-liver transplantation cirrhotic patients.

De Marco M, Chinali M, Romano C, Benincasa M, D'Addeo G, D'Agostino L, de Simone G.

Echocardiography Laboratory, Department of Clinical and Experimental Medicine, Federico II University Hospital, Naples, Italy.

### Abstract

**OBJECTIVE:** Severe liver disease is associated with abnormalities in cardiac geometry and function. We aimed to assess the prevalence of these abnormalities and to determine if they represent an adaptation of the heart to the haemodynamic overload associated with liver dysfunction.

**METHODS:** Seventy cirrhotic patients underwent standard Doppler echocardiography, as a screening evaluation for liver transplantation, and were compared with 70 normal subjects matched for age and sex. The values of echocardiographically measured left ventricular mass (LVM) were compared with those predicted from individual haemodynamic load, sex and height, which represent the compensatory values. LVM was considered inappropriately high when the observed/predicted LVM ratio was >128%.

**RESULTS:** Cirrhotic patients had higher LVM index (40.6 +/- 11.2 vs. 36.3 +/- 7.7 g/m;  $P = 0.009$ ), similar values of ejection fraction, but lower intrinsic wall mechanics ( $P < 0.01$ ) compared to controls. The observed/predicted LVM ratio was also significantly increased (117.7 +/- 30.2 vs. 106.5 +/- 16.8%;  $P < 0.01$ ) and prevalence of inappropriate LVM was almost three-fold higher in cirrhotic patients (27.7 vs. 10.0%;  $P < 0.05$ ) than in controls. Cirrhotic patients also presented mild impairment of left ventricular systolic function, documented by lower values of midwall shortening.

**CONCLUSIONS:** Patients with severe liver disease have LVM values exceeding the compensatory needs to sustain haemodynamic overload, associated with subclinical systolic dysfunction.

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