Serum Carboxy-terminal propeptide of procollagen type I in exercise-induced left ventricular hypertrophy.

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Introduction
Exercise-induced left ventricular hypertrophy (LVH) is generally thought to consist of myocyte hypertrophy secondary o the chronic cardiovascular stressors of exercise and will be reversible on cessation of it. However recent data suggests that in veteran athletes exercise induced LVH is incompletely regressed.

Objective
This study was designed to investigative whether there are abnormalities in collagen synthesis in athlete’s LVH analyzing the serum concentration of the carboxyl-terminal propeptide of procollagen type I (PIP) a marker of collagen type I synthesis.

Méthods and Results
22 males athletes (10 cyclists, 12 soccer players 27±8.5 years) highly competitive were studied with full history, clinical examination and echocardiography to assess LBV dimensions, LV mass and markers of diastolic filling. PIP was measured by specific radioimmunoassay. 8 athletes with LVH (LVM > 131 g/m²) (H) and without LVH (N) were normotensive (H:120±11/77±9 mmHg, N:110±12/68±12 mmHg). LV systolic function (LVEF:H:1.98±0.5-N:1.77±0.4 ns) and PIP (H:172±42 mcg/l-N:163±69 mcg/l-ns-) was similar in athletes with and without LVH.

Conclusion
These results show similar level of a marker of collagen type I synthesis in athletes with and without LVH. Although preliminary, these findings suggest that the determination of PIP may be a reliable method to complete the characterization of LVH in athletes.
Top

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