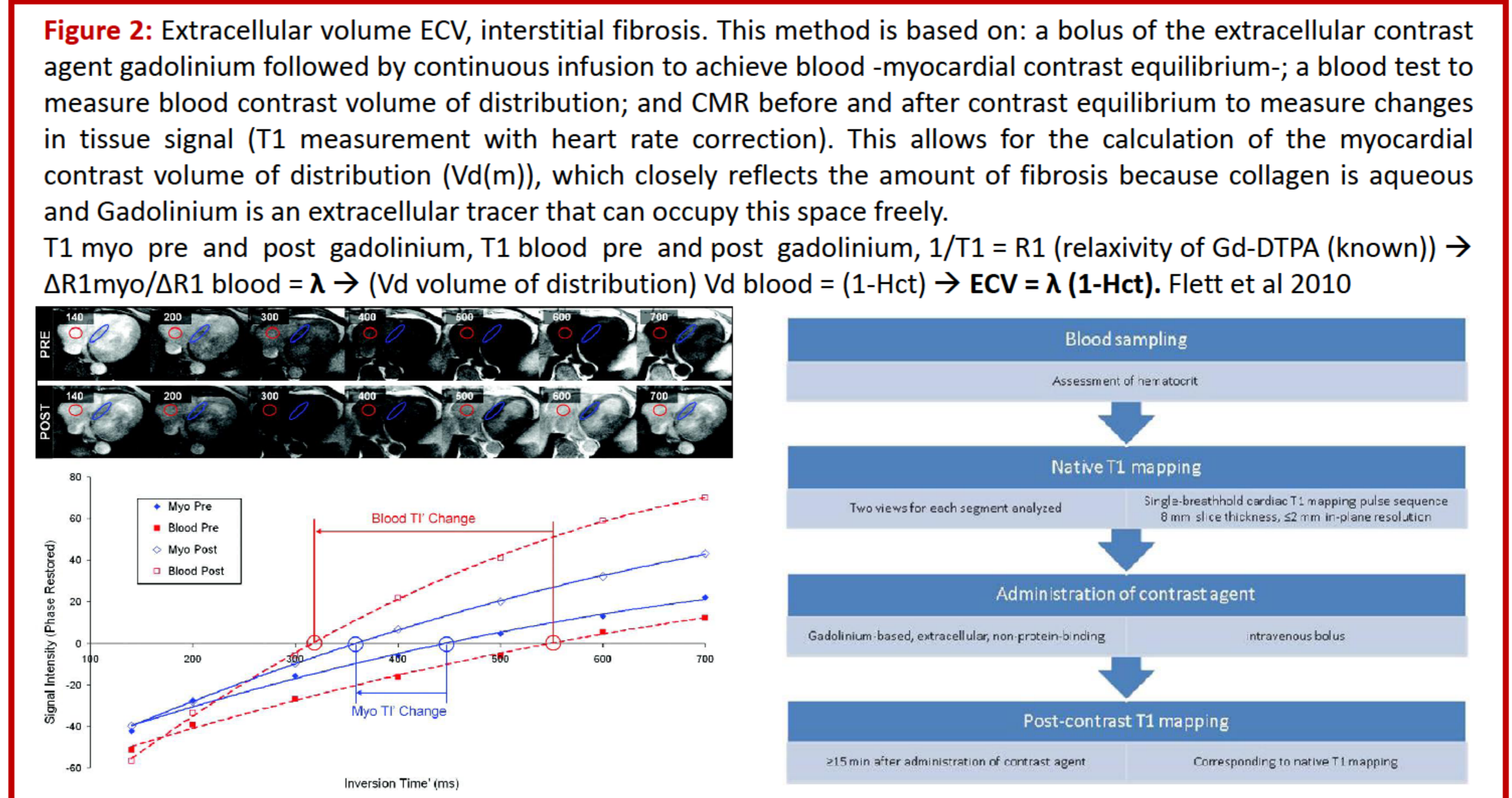
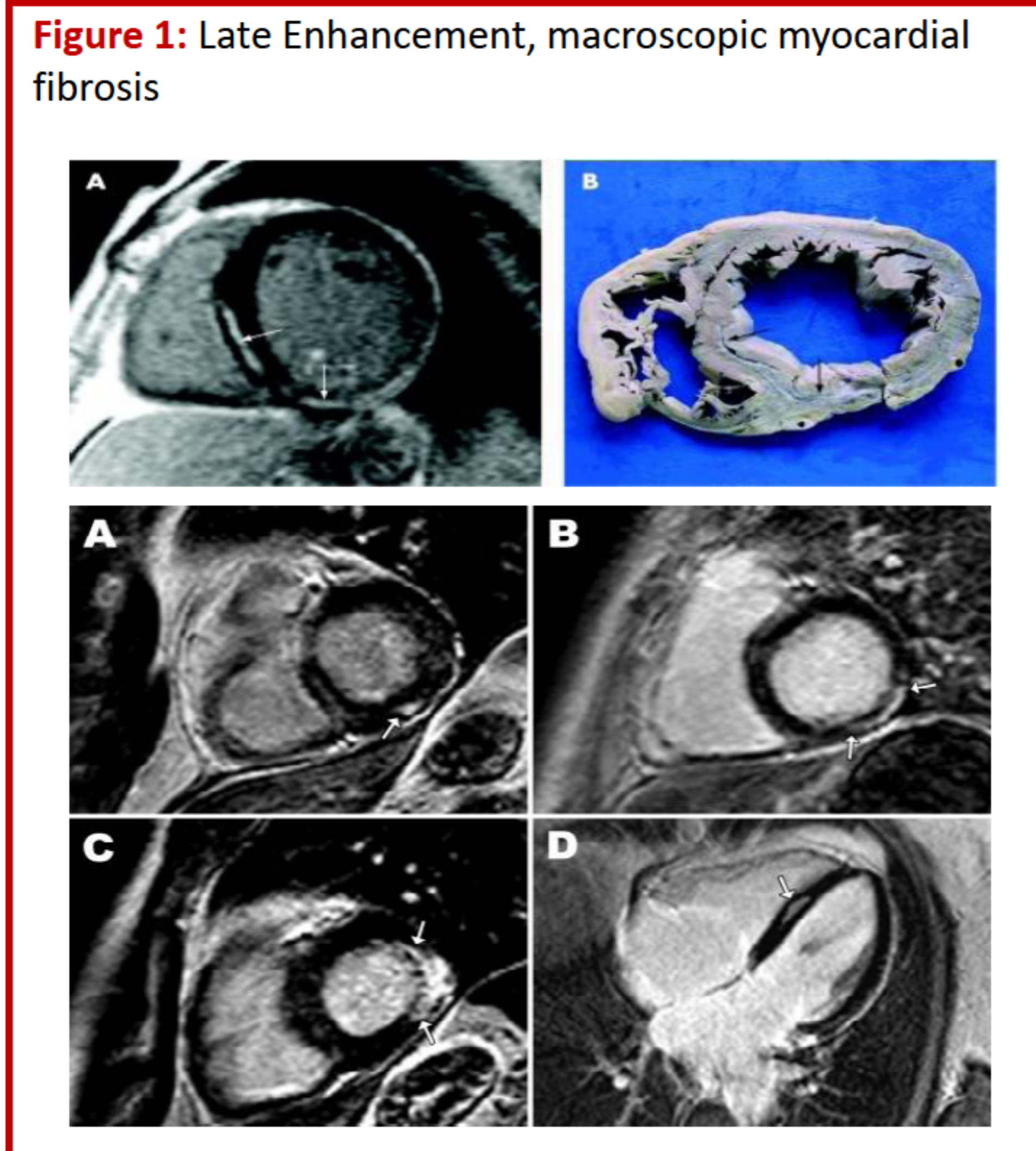


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Introduction: Acromegalic cardiomyopathy is characterized by myocardial hypertrophy, myocyte disarray and interstitial myocardial fibrosis at biopsy, with predominant diastolic dysfunction and complications as arrhythmia, valvulopathy and coronary disease. We studied left ventricular hypertrophy -LVH- through echocardiography (-ECHO- 2-D standard echocardiography and Doppler analysis) and cardiac magnetic resonance (CMR) analysis. Macroscopic myocardial fibrosis was studied with late enhancement technique (LE) while interstitial fibrosis with extracellular volume technique (ECV) at CMR (Figure 1-2).



Methods: 25patients -pts- (13males) with an average age of 49.24 ± 11.96 yy, mean IGF-1 $324(186-626)$ ug/L, 17pts with active disease, 9pts had a newly diagnosed disease. Results of the CMR (on 24 pts) were compared with those of 20controls -CTR- matched for sex and age Table 1. We performed echocardiogram and CMR and we compared the data of the two analysis.

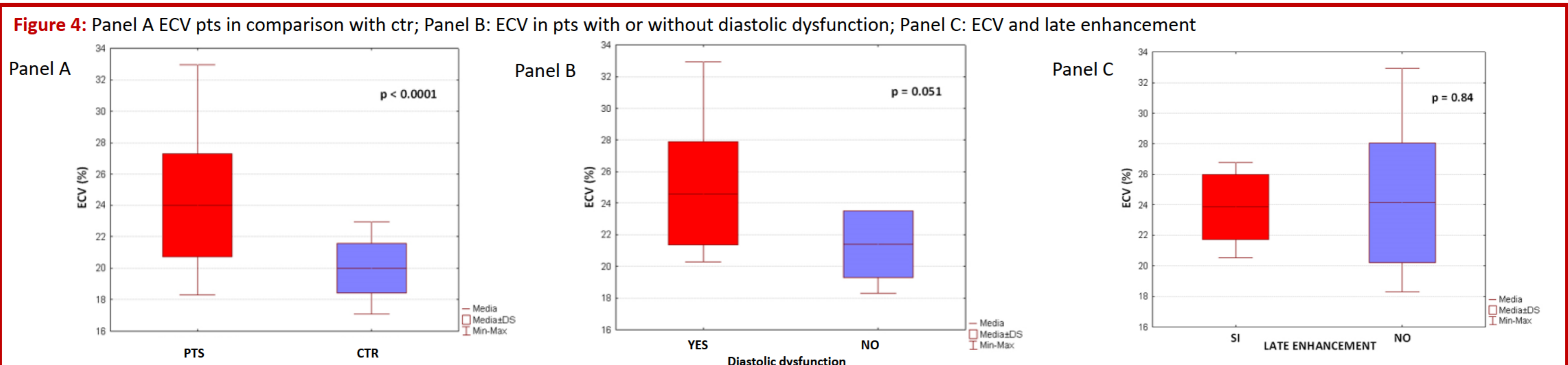
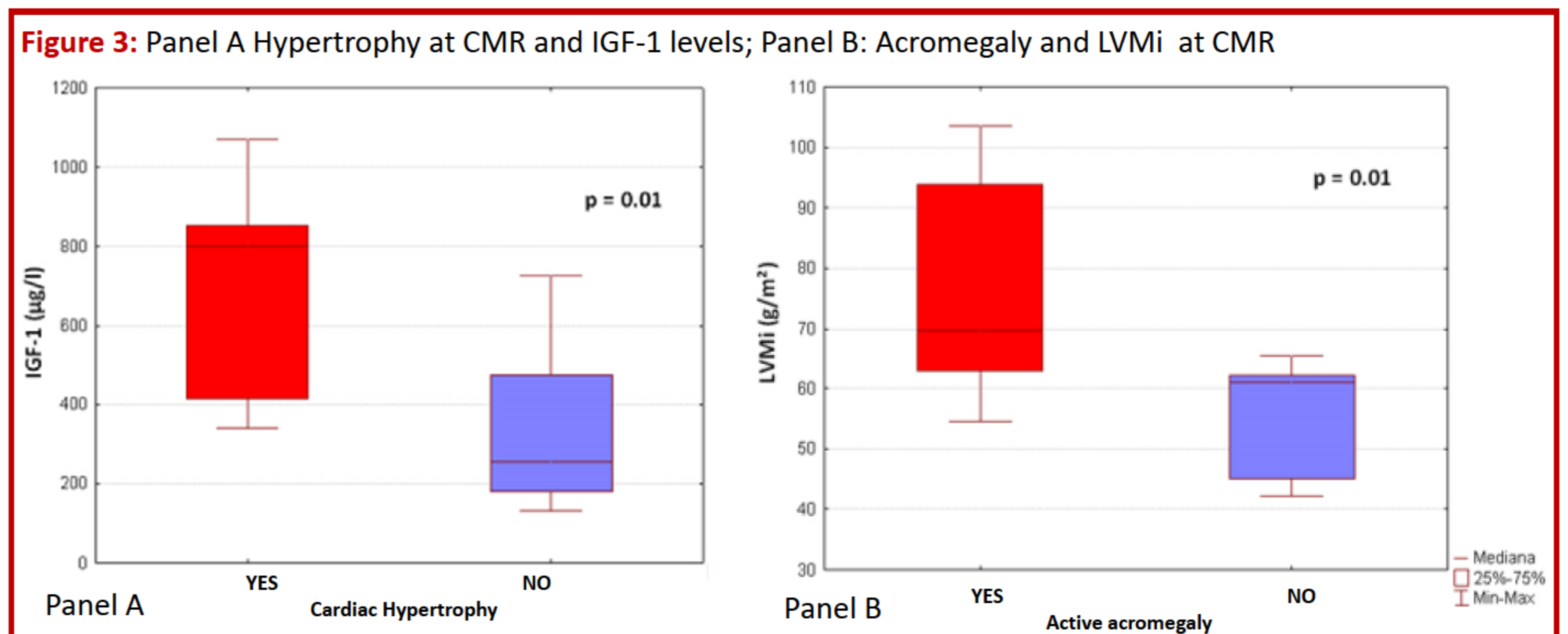
Results: On ECHO: 10pts reported LVH (mean left ventricular mass index $LVMi = 118.83 \pm 26.32$ g/m²), 17pts had first grade diastolic dysfunction ($E/A = 0.81 \pm 0.3$). There was no correlation between the echocardiography data and IGF-1.

On CMR: 5pts had LVH (median $LVMi = 64.2$ g/m²). Pts with LVH had higher IGF-1 levels than pts without LVH (Median= $801 \mu\text{g/l}$ vs $267 \mu\text{g/l}$; $p = 0.01$); pts with active disease had higher $LVMi$ values than non-active pts (Median= 70.2 g/m² vs 61 g/m²; $p = 0.007$); there was a significant correlation between IGF-1 and $LVMi$ ($r = 0.63$; $p < 0.05$) (Figure 3). LE was found in 9 pts. Pts's ECV was significantly elevated in comparison to CTR (pts= $24.05 \pm 3.2\%$ vs CTR= $19.99 \pm 1.58\%$ $p < 0.0001$) Figure 4 Panel A-B-C.

$LVMi$ at CMR had a significant correlation with $LVMi$ at echocardiography ($r = 0.5$, $p < 0.05$).

Table 1. Patients characteristics mean values

Age at diagnosis (yy)/Years before diagnosis (yy)	40.96 / 6.65
Macroadenoma	19
NCH/RT/SSA/PEG/DOP	13 / 2 / 10 / 6 / 2
Hypertension / Mean systolic and diastolic BP (mmHg)	13 / 140.6 and 89.4
BMI (kg/m ²) / waist (cm) / obesity (n°pts)	29.88 / 102.31 / 12
TC/LDL/HDL/TG (mg/dl)	182.64 / 115.6 / 51.6 / 99.12
Diabetes/IFG/IGT/ normal glucose tolerance/ metabolic sdr	7 / 2 / 1 / 15 / 15
VTD (ml/mq) / FE (%)	65.52 / 59.96



Conclusions: this study confirms that LVH and diastolic dysfunction are key features of acromegalic cardiomyopathy. Both macroscopic (LE) and interstitial fibrosis (ECV) are common findings in acromegaly.