Purpose: Diastolic function is early affected in hypertensive patients and it progresses with disease evolution and coronary damage. High values of left ventricular end-diastolic pressure in acute phase of myocardial infarction was associated with severe evolution.

Aim of the study: to find a correlation between the echocardiographic parameters of increased filling pressure and left ventricular remodeling after acute myocardial infarction in hypertensive patients.

Methods: A number of 98 hypertensive patients (56 males and 43 females), admitted with acute myocardial infarction with ST-segment elevation were evaluated during the first week by:

- clinical examination, 12 lead standard ECG
- echocardiographic measurement of:
  - left atrium volume index (LAVi)
  - left ventricular mass index (LVMi)
  - hallmarks of left ventricular hypertrophy (LVH), dilated cardiomyopathy (DCM)

Cut off levels: LAVi>32ml/m², LVMi>131g/m² in males and>125g/m² in females
- mitral inflow, pulmonary venous inflow measurement using Doppler echocardiography
- tissue Doppler echocardiography at lateral and medial corner of mitral annulus
- color Mmode echocardiography

E/E' average ratio, E/vp ratio and ar-A duration were calculated. The second evaluation was made after one year.

LVEF measured by Simpson method was less than 45%. All patients received thrombolytic therapy.

Results:

Using chi squared (CS), odd ratio (OR) and relative risk (RR) significant correlations were found between:

1. **Left ventricular aneurysm**: during the first week
   - **E/vp >1.4 (CS=3.84)**
   - **ar-A >30ms (CS=1.2440764, OR=2.012987, RR=1.8253868)**

2. **Echocardiographic features of LVH, LVH and dilated cardiomyopathy**: were correlated with:
   - **LAVi>32ml/m² (CS=24.01872)**
   - **E/E'average>14 (CS=30.149179)**
   - **E/vp >1.4 (CS=19.995522, OR=4.109375, RR=0.380435)**

3. **Correlations between echocardiographic parameters of increased filling pressure and echocardiographic aspect of left ventricle after one year:**
   - **LAVi >32ml/m² (CS=14.19489)**
   - **E/E' average >14 (CS=13.603)**
   - **E/vp >1.4 (CS= 29.31533)**
   - **ar-A >30ms (CS= 8.759379)**

Conclusions:

1. Left ventricular aneurysm during the first week of hospitalisation and after one year was correlated with echocardiographic parameters of increased filling pressure in hypertensive patients with acute myocardial infarction.

2. We also found a correlation between echocardiographic parameters of increased filling pressure during the first week of hospitalisation and hallmarks of LVH, LVH and dilated cardiomyopathy after one year, suggesting a worse evolution in these patients.