Our purpose was to study and compare echocardiography (Echo) and stress-Echo data with vital capacity of lungs (VC), calcium and angiotensin-converting enzyme (ACE) blood level. 60 people aged 25-44 were examined, 44 of them (28 men, 16 women) with sarcoidosis of lungs without any other diseases were included to the main group; 16 healthy persons (10 men, 6 women) – to the control group. Echo was performed using "Vivid E9" ultrasound system. Left ventricular ejection fraction (LV EF) was determined in 2D and 3D mode, global longitudinal deformation of the left and right ventricles (GLS LV and RV, %), pulmonary artery systolic pressure (PAP, mmHg) were measured at rest and at the peak of exercise (horizontal ergometer "e-Bike", GE, "50x25" for 2 min). External respiration function was determined using the Master Screen-CPX. The values of VC and calcium level did not differ in both groups (p=0.65 and p=0.06, respectively). ACE level was higher in the main group: 77.20±41.3 U/l vs 39.7±11.9 U/l (p=0.046). LV EF at rest in main and control groups did not differ (EF-2D was 62.7±5.1% and 66.1±4.8%, respectively, p=0.27; EF-3D was 62.6±4.5% and 61.8±3.9%, respectively, p=0.27). At the peak of exercise LV EF was higher in control group: 77.1±4.2% and 66.1±4.8% - 2D (p=0.05); 76.6±5% and 68.2±7.6% - 3D (p=0.001). The EF-2D increase in both groups was more than 5%, however, it was higher in the control group (11.2±4.4% vs 7.5±8.1%, p=0.003). GLS LV demonstrated no differences at rest (p=0.36) and mild, but not statistically significant increase at the peak of exercise (p=0.19) in both groups. GLS RV at rest had lower values in the main group (p = 0.03). At the peak of exercise there was a tendency to decrease of GLS RV in the main group and increase of GLS RV in the control group, statistically not significant (p=0.06). It’s important that in patients with pulmonary sarcoidosis there was a moderate correlation between ACE level and GLS RV at the peak of exercise (r=0.45, p<0.05). In both groups, PAP didn’t significantly differ at rest (p=0.06), but at the peak of exercise increased >50 mm Hg in 43% of patients with sarcoidosis. The upper quartile of PAP at the peak of exercise in healthy individuals was 38 mm Hg. It was exceeded in the main group in 76% of cases. Conclusions. In young patients with sarcoidosis of lungs at early stages there were no VC and Echo data abnormalities, which with the lack of complaints proves the need of preventive fluorographic examination of the population. In patients with pulmonary sarcoidosis GLS RV should be measured because it tends to decrease, correlates with the ACE level and may be an additional predictor of myocardial dysfunction. In persons with sarcoidosis, the main pathological finding was an increase of PAP at the peak of exercise (sign of pulmonary hypertension) in 76% of patients compared with the control group, where the upper quartile was 38 mm Hg.