Abstract Background: Behc¸et disease (BD) is a multisystemic, chronic inflammatory disorder of unknown etiology with diffuse clinical manifestations including the cardiovascular system. Aim of the work: To assess left ventricular (LV) function and thoracic aorta elastic properties in BD patients using Doppler echocardiography and to correlate echocardiographic findings with disease activity. Patients and methods: The LV functions and thoracic aorta elastic properties were assessed in 30 BD patients and 30 controls using conventional and Tissue Doppler Imaging (TDI) echocardiography. Disease activity was evaluated using Behc¸et’s disease current activity form (BDCAF). Erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), cholesterol and triglyceride levels were measured. Results: In BD patients, ESR and CRP were significantly elevated while cholesterol and triglycerides were comparable to the levels in the control. In conventional echocardiography, BD patients had significantly higher aortic diastolic diameter (p < 0.05), aortic stiffness index (p < 0.001), isovolumic relaxation time (p < 0.001), flow propagation velocity (FPV) and peak E-wave velocity/FPV (E/FPV) (p < 0.001) than the control group while aortic strain was significantly lower \* Corresponding author. Mobile: +20 1095000886. E-mail address: waleed22101979@yahoo.com (W.A. Hassanin BD patients (p < 0.05). Lateral mitral TDI echocardiography showed that myocardial performance index was statically higher in BD patients (p < 0.001) while peak myocardial velocity and myocardial acceleration during isovolumic contraction were significantly lower (p < 0.001). The BDCAF showed a significant correlation with different echocardiographic parameters of systolic and diastolic dysfunction. Conclusions: Behc¸et disease patients have impaired LV systolic and diastolic functions and altered aortic elastic properties that correlate with disease activity. TDI is more sensitive than conventional echocardiography for the detection of early ventricular dysfunction in patients with BD.