Objective. To estimate clinical manifestations and history of patients with atherosclerotic lesions of brachiocephalic vessels, neurological symptoms, and concomitant diseases. Materials and methods We registered all cases of atherosclerosis of brachiocephalic arteries in patient with neurological manifestations followed up in the outpatient diagnostic center of the regional hospital. We selected 100 cases of brachiocephalic arteries’ atherosclerosis combined with neurological symptoms and comorbid pathologies from the patients undergoing neurological follow-up. Patients were divided into age groups according with the WHO and ILO classifications. Results It has been shown that 50% of males and 100% of females in the middle age group have arterial hypertension (AH), in this age group there were no female cases of diabetes mellitus (DM) and all male patients had DM. Only 33% of middle-aged women had thyroid diseases. 62% of men and 31% of women of the advanced middle age group had coronary heart disease (CHD). DM was present in 24% of advanced middle age males and 14% of advanced middle age females. In this age group 41% of women and 8% of men had thyroid diseases. 77% of elderly women and 43% of elderly men had CHD. DM was present in 46% of elderly women and 21% of elderly man, whereas thyroid diseases were found in 23% of women and 7% of men of elderly age. Rheumatic diseases were found in 31% of women and 7% of men. Multifocal atherosclerosis takes the leading position between observed concomitant diseases, and it is followed by AH and CHD at the second and third positions, respectively. CHD is more frequent in men. Conclusion Results of this study revealed significant gender differences and different prevalence of thyroid diseases, rheumatic diseases, and purinee metabolism abnormalities. Analysis of comorbid structure in atherosclerosis of brachiocephalic arteries revealed prevalence of concomitant cardiovascular diseases in all age groups. Key words Brachiocephalic arteries, atherosclerotic lesions, comorbidity