Objective To investigate the efficacy and safety of Carotid angioplasty and stenting (CAS) by different cerebral protection devices in 1148 patients with carotid stenosis.

Methods Carotid angioplasty and stenting by different cerebral protection device were performed in 1148 patients with carotid artery stenosis from April 2003 to June 2007. There were 812 males and 336 females in all patients. Age were from 56 to 84 (average 68±5). Transient ischemia attack (TIA) occurred in 894 patients, and cerebral infarction (CI) occurred in 254 patients. Eight hundred and fifty four Angioguard (Cordis, Co.), 350 Spide (EV3, Co.), 25 Filterwire (Boston Scientific, Co.), 16 Emboshield (Abbott, Co.), eight MoMa (Invetech, Co.) and two Aether (MicroPort, Co.) were used in CAS.

Results One thousand two hundred and fifty five cerebral protection device were successfully placed in internal carotid arteries with 1148 patients, 8 MoMa were placed respectively in external and common carotid artery. Predications were performed in 18 patients by Angioguard because of severe carotid stenosis. Cerebral protection device disruption occurred in one patient during retrieve of Spide. The mean diameter of carotid stenosis was from (87.6±6.8)% to (18.9±10.8)% after CAS (p<0.01). No death and ischemic stroke or cerebral arterial thrombosis occurred in 684 patients during one year of follow-up.

Conclusions By option usage of cerebral protection device, CAS be successfully performed in patients with carotid stenosis. Meanwhile, CAS is a safe and effective method and improve cerebral ischemia and prevent ischemic stroke.