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Angiographic, CT and MR findings, precipitating factors, and clinical features of spontaneous intracranial internal carotid artery dissection, in particular the terminal segment of the ICA, are described. Patients who had a possible posttraumatic dissection were excluded from the study. Six patients, 3 men and 3 women, mean age 25.8 years, were studied. Spontaneous ICA dissection accounted for 0.63 percent of 797 patients with ischemic stroke and 14 percent of 36 patients with ischemic stroke who were 45 years of age or younger. Headache was absent in two but clearly preceded the onset of cerebral stroke in four patients, the interval ranging from less than a few minutes to 6 hours. Focal cerebral ischemic symptoms were present in all six patients. Four presented with loss of consciousness. Only one patient had a subarachnoid hemorrhage (SAH). Dissection occurred at the level of the carotid knee portion just beyond the origin of the ophthalmic artery in all the patients. Moreover, there was additional involvement of the ipsilateral MCA in four and ipsilateral ACA in three. angiographic features of the six ICAs that involved dissection were a smooth tapered luminal narrowing or occlusion in two patients, irregular narrowing in three, a pearl and string sign in one, and retention of the contrast media in three. Follow up angiography or magnetic resonance (MR) angiography was performed on all the patients. The interval from the initial to follow-up angiography was one to six months. Stenosis persisted in one artery but was resolved in the other five arteries. MR angiography showed segmental narrowing of the right supraclinoid internal carotid artery in one patient. MR angiographic source images showed a narrow lumen in the right intracavernous portion of the ICA and a crescent-shaped filling defect. Follow-up MR imaging and MR angiography, 6 months after the initial study, showed amelioration of the luminal narrowing and no filling defect. The filling defect is considered to be due to a thrombosed pseudolumen. Treatment consisted of anticoagulation therapy for two patients, hyperbaric therapy for two, and supportive measures only for two. Follow-up ranged from ten months to three years. Of these six patients with completed stroke, four had full recovery, and two some residual neurological deficits. Trivial precipitating events were reported by five of the patients (playing tennis, running, bicycling, and drinking alcohol). Migraine headaches were cited by one patient, use of oral contraceptives by another, and use of tobacco by a third. All the patients were normotensive. In none of them was family history contributory, nor was any underlying arteriopathy identified. Of the six personal cases and the reviewed 25 cases during the last 15 years, represented on the Glasgow Outcome Scale, good recovery was achieved in 61%. The outcomes for these patients was better than previously reported. Spontaneous intracranial
ICA dissection may cause ischemic stroke, with or without subarachnoid hemorrhage, especially in young patients.

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