Oculomotor nerve palsy

The primary symptom of oculomotor nerve palsy is diplopia from misalignment of the visual axes, and the pattern of image separation is the key to diagnosing which particular cranial nerve (and extraocular muscle) is involved. With unilateral third cranial nerve palsy, the involved eye usually is deviated down and out (infraducted, abducted), and there is ptosis, which may be severe enough to cover the pupil. In addition, pupillary dilatation can cause symptomatic glare in bright light (if the ptotic lid does not cover the pupil), and paralysis of accommodation causes blurred vision for near objects.

Classification

Unilateral oculomotor nerve palsy

Non-pupil-sparing oculomotor palsy

Pupil sparing oculomotor palsy (pupil reacts to light)

Etiology

see Oculomotor nerve palsy etiology.

Differential diagnosis

The differential diagnosis includes intracranial hemorrhage, subarachnoid hemorrhage, bacterial meningitis, cavernous sinus thrombosis, and midbrain infarction.

Pituitary apoplexy oculomotor nerve palsy, should be considered early in the differential diagnosis of sudden onset isolated complete third nerve palsy.

Case reports

A cervicocephalic fibromuscular dysplasia (FMD) patient with a history of right oculomotor nerve palsy in 2000. Angiography revealed bilateral internal carotid artery (aneurysms and a fusiform aneurysm in the right vertebral artery. Typical “string-of-beads” phenomenon was observed in V2 segment of left vertebral artery. The right ICA giant aneurysm was treated by right ICA occlusion and superficial temporal artery to middle cerebral artery bypass at that time. Five years later, the patient presented with paroxysmal weakness in right limbs. The subsequent angiography showed the enlargement of left ICA aneurysm. It was treated satisfactorily with left external carotid artery-saphenous vein-MCA bypass and left ICA ligation. During the long-term follow-up, the patient kept no neurological deficit and the angiography showed good patency of bilateral grafts and the lesions in bilateral vertebral arteries remained unchanged [1)].

1)
Ma Y, Li M, Zhang H, Ling F. A 10-year follow-up of extracranial-intracranial bypass for the treatment of bilateral giant internal carotid artery aneurysms in a patient with fibromuscular dysplasia: case report. Acta Neurochir (Wien). 2010 Dec;152(12):2191-5. doi: 10.1007/s00701-010-0778-3. Epub 2010 Aug 24. PubMed PMID: 20734090.