28 Ptosis of the Upper Eyelid

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Ptosis has one of three causes: partial damage to the oculomotor nerve (the branch which innervates the levator palpebrae superioris muscle); damage to the sympathetic pathway (weakness of tarsal muscle; see also Chap. 17); or myopathy. Ptosis may be unilateral or bilateral. If it is unilateral, it indicates a circumscribed lesion. Bilateral ptosis is almost invariably a sign of generalized muscle disease or, much more rarely, of disease of the peripheral nervous system. The first diagnostic task is to ascertain whether there is also mild weakness in other extraocular muscles, and the second is to examine the pupil(s) for width and reaction to light. Presence of miosis and preservation of ocular movement suggest Horner’s syndrome and rule out third nerve palsy. A mildly dilated pupil with attenuation of ipsilateral constriction reaction to light is characteristic of third nerve palsy and rules out both Horner’s syndrome and myopathy. There are, of course, cases of third nerve palsy where the parasympathetic fibers are spared. For differential diagnosis of third nerve palsy, see Chap. 6. In myopathy, there is frequently weakness of other ocular, facial, and/or limb muscles, in addition to ptosis.

Quite naturally, there is a great deal of overlap between this chapter and the one on acute paralysis of the extraocular muscles. Some of the following paragraphs, therefore, may be kept rather short. They should serve simply as a reminder, because ptosis may be an accidental finding, and it rarely leads to complaints by the patient. If it evolves chronically, some patients cannot even tell whether or not they have had a drooping of the eyelid(s) all their life.
28.1 Unilateral

28.1.1 Horner's Syndrome. The differential diagnosis of Horner's syndrome is discussed in Chap. 17.

28.1.2 Lesion of the Midbrain Tegmentum. A midbrain tegmentum lesion which, within the complex of the third nerve nucleus, affects only the small area where the fibers to the levator palpebrae superioris muscle originate, must be very small indeed. It is observed, however, in small-vessel disease of the brain stem. Usually, the patients are hypertensive. Metastatic midbrain tumor will rapidly produce other local signs in addition to ptosis of the upper eye lid.

The midbrain lacune itself will be smaller than the resolving power of modern imaging machines. However, if one suspects stenosing small-artery disease it is useful to search, by neuroimaging, for the presence of other lacunes that would support the diagnosis.

28.1.3 Syndrome of the Cavernous Sinus. The cavernous sinus syndrome has been discussed in Chap. 21. Unilateral ptosis may be the first sign of a fistula between the carotid artery and the cavernous sinus. These fistulae sometimes develop spontaneously, most probably by rupture of a small arteriosclerotic aneurysm, and this is by no means a dramatic event. In our experience, fluctuation in the intensity of ptosis is quite suggestive, and CW ultrasound sonography may be diagnostic, as described in Chap. 6.

Any kind of parasellar tumor should be considered, especially if in addition to ptosis there is pain in the ocular or temporal region, and if there is slight protrusion of the eyeball and/or congestion of conjunctival vessels.

28.1.4 Intraorbital Tumor and Inflammatory Pseudotumor. If intraorbital tumor leads to drooping of the upper eye lid, the mechanism is damage to one of the terminal branches of the third nerve. Otherwise, tumor and retro-orbital inflammatory processes of various types lead rather to widening of the eyelids. Frequently there is nonpulsating protrusion of the eyeball, which can be assessed by comparing the position of two spatulae placed horizontally on the eyes, lids closed. Diagnosis is made by neuroimaging and the nature of the process may be verified by biopsy.

28.2 Bilateral

28.2.1 Myopathy. The most frequent cause is myopathy. Onset in these cases is insidious, and close examination will reveal signs of atrophy in other muscles of the face, which give the patient a slack expression devoid of the normal fast succession of emotional facial movement(s)