Enophthalmos caused by an orbital venous malformation

Orbital vascular malformations usually present with proptosis. We report a case where a patient with an orbital venous malformation presented with enophthalmos. Since many underlying orbital pathologies, including orbital metastases, can cause enophthalmos, it is important to investigate patients properly. Computed tomographic imaging of the orbit remains the most useful tool in the management of patients with enophthalmos.

Introduction

Enophthalmos is recession of the eyeball into the bony orbit. It is due to a change in the volumetric relationship between the rigid bony orbital cavity and its contents, predominantly the orbital fat and the eyeball. Expansion of the orbital cavity with no change in the volume of the orbital contents leads to enophthalmos. Alternatively, scar contracture of the orbital fat and extraocular muscles may decrease the soft tissue volume, making the orbital cavity less full, thus causing enophthalmos. Conditions that can lead to orbital cavity expansion include fractures of the orbital bones, surgical expansion of the orbit in thyroid orbitopathy, and orbital varices with bone erosion. Conditions that cause loss of orbital contents include orbital fat atrophy following trauma, severe inflammation or infection, external beam irradiation, orbital metastases, maxillary mucoceles and surgical resection of an orbital mass.1

Case report

In January 2007, a 55-year-old woman with no history of trauma presented with a 5-year history of progressive drooping of her left eyelid and a sunken left eye. A physical examination revealed a 4-mm enophthalmos with a 5.5-mm pseudoptosis obscuring the visual axis of the left eye (Fig 1). A soft tissue mass with an indistinct border was palpable below the superonasal orbital rim. The size of the mass and the degree of enophthalmos did not change during the Valsalva manoeuvre. The left eye had limited lower and lateral movement. The visual acuity was 0.2. Both pupils had a normal light reaction. The intraocular pressure was 16 mm Hg. A plain computed tomographic (CT) scan of the orbit revealed a 5.6-mm lobulated soft tissue mass with multiple calcified densities, mainly in the superomedial orbital region, displacing the optic nerve medially. The left orbit showed expansion (Fig 2a). An orbital CT scan with contrast showed a homogenously enhancing mass involving the superior and medial recti muscles, the posteromedial part of the inferior rectus muscle, and the optic nerve, around their attachments to the globe (Fig 2b). Phleboliths were visualised (Fig 2c). Fourteen months later, the enophthalmos had increased to 6.5 mm while the pseudoptosis remained unchanged. Her visual acuity was unchanged at 0.2. Because of the diffuse nature of the lesion, conservative management...

References