

Eye and headache: Not always an inseparable association

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A 45-year-old man with a history of chronic headache (pulsating, tension-type like and stabbing) with blurring vision since 2016, presented to our emergency department with an acute headache, 8/10 in severity, with foreign body sensation in the right eye and subjective impression of blurred vision. He denied photophobia and phonophobia. The symptoms were alleviated by NSAIDs. Neurological and full ophthalmological evaluation, including bilateral acuities, anterior segment, fundoscopy, as well as computerized visual fields, resulted normal. Laboratory findings were unremarkable. Blood pressure was normal. Brain computed tomography (CT) scan showed a small radio-opaque image of approximately 3 mm in the anterior part of the right eyeball in the paramedian area and ruled out masses (including meningioma of the optic nerve), signs of bleeding and endocranial hypertension.

Question

Given the patient's history and CT imaging, what is the most likely diagnosis?

- 1) Calcification of the globe
- 2) Foreign body
- 3) Optic disc drusen (ODD)
- 4) Pseudo papilledema

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Answer

The final diagnosis is “chronic primary headache and calcification of the right globe”. Eye calcification can be considered an incidentaloma. Calcification of the globe can have many causes, both benign and malignant.¹ Incidental asymptomatic orbital calcifications are commonly encountered on modern high-resolution CT images of the brain and orbit.² CT marked sensitivity to calcium increases its usefulness in the workup of ocular lesions.³ Calcific scleral plaques are usually asymptomatic incidental findings, and they usually occur just anterior to the insertion of the horizontal (medial and lateral recti muscles), at the level of the lens. The calcified plaques are variable in size, can be single or multiple, involve one or both eyes, and are very common in elderly patients.⁴ Corneal and conjunctival calcification is the main extravascular site for calcification among patients with end-stage renal disease on maintenance haemodialysis.⁵ Calcifications of the trochlea are common findings on CT scan of the orbit⁶ and should be considered in the differential diagnosis of hyperintense densities in the superomedial orbit, especially in cases of trauma where it can be confused with a foreign body. Axial CT can also show calcification in the substance of the optic nerve head, consistent with the diagnosis of ODD. ODD are acellular deposits located in the optic nerve head of up to 2.4% of the population.⁷ On CT, drusen appears as a discrete, rounded high density confined to the optic disc surface. CT scans are so sensitive that they may detect drusen when the ophthalmoscopic examination is apparently normal.² The majority of patients with ODD have visual field defects, most often due to anterior ischaemic optic neuropathy.

Our patient reported a history of head trauma that had occurred 3 years earlier in a car accident. We believe such ocular calcification might be the result of previous trauma, and long-term ophthalmological monitoring could be worthy. A calcification in that specific position of the eyewall is unlikely to cause any foreign body sensation, which has indeed resolved in our patient with the simple use of lubricants. Neither was that calcific plaque the origin of the drop in vision, which has spontaneously come back to normal along with the resolution of headache without any further care.

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