

The 'Swollen' Disc: Optic Disc Edema

Most retinal photographs with blurred disc margins are often from pseudopapilledema. Commonly, the small optic disc seen especially in hyperopia appear congested and 'swollen'. A high index of suspicion is needed to reduce the chances of missing a 'real' papilledema (bilateral optic disc edema) or the unilateral optic disc edema. Papilledema points to raised intracranial pressure from a variety of causes such as intracranial tumour, intracranial haemorrhage, pseudotumour, and from drugs such as corticosteroids, tetracycline and others.

The optic disc with optic disc edema may show some of the following signs:

1. Blurred optic disc margin
2. Hyperaemic disc
3. Congestion of the veins from the optic disc
4. Haemorrhages around the disc (peripapillary haemorrhage)
5. Exudations around the optic disc
6. Loss of the optic cup
7. Retinal folds

Diagnosis of raised intracranial pressure from the appearance of the optic discs alone is difficult in the early or resolving stages. The optic discs may look fairly normal and the visual acuity is often normal as well.

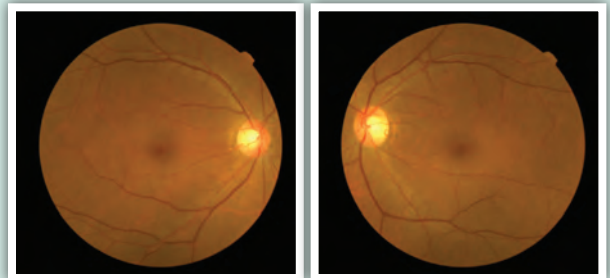
It cannot be emphasised often enough that the retinal photograph is but a clinical tool to sieve out the majority of normal looking photographs from 'abnormal' photographs. Findings have to be correlated with clinical signs and symptoms.

Recent real life situation #1

Miss B, a 45-year-old housewife saw me in my clinic for mild blurred vision. Visual acuity was 6/6 in both eyes. The retinal photographs look unremarkable. She had a 'migraine' history for several years. She mentioned in passing about missing certain letters while typing. A quick visual field confrontation test showed a left homonymous hemianopia. A MRI the same evening showed a large occipital lobe meningioma with cerebral edema and midline shift.

Learning Point

Miss B, despite the raised intracranial pressure and a large compressive brain tumour had no discernible signs of papilledema or visual acuity defect. The diagnosis would have been missed with dire consequences had the confrontational visual field and subsequent MRI not been done. She had surgery to remove the brain tumour the following day and recovered well.



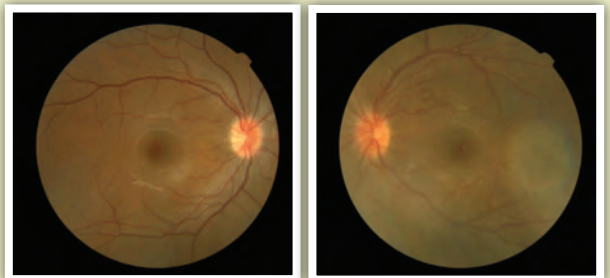
The 'normal' looking retinal photographs of both eyes of Miss B who had a large brain tumour.

Recent real life situation #2

Miss M is 19 years of age and had very frequent and persistent headaches for a few years. Vision is 6/6 in both eyes. Retinal examination showed blurred optic disc margins in both eyes. The left retina also had increased tortuosity of the blood vessels and sphincter shaped haemorrhages, signs consistent with papilledema. She had no other neurological signs. MRI was necessary to exclude a potential brain tumour. It was negative. Causes of optic disc edema apart from raised intracranial pressure from space occupying lesions include optic neuritis and ischemic optic neuropathy

Learning Point

In Miss M situation, the papilledema is likely to be from benign intracranial hypertension, a diagnosis of exclusion. The history of headaches and swollen optic nerves justified a MRI. Fortunately it turned out to be not from a brain tumour or other space occupying lesions.



Right and left retinal photographs showing fuzziness of the optic discs margins, tortuous veins and peripapillary haemorrhage.

The stories of these two patients underscore the need to be acutely aware of the different possible presentations and diagnoses despite seemingly certain clinical signs. The bilateral swollen discs scenario is not always due to a brain tumour and neither is the apparently 'normal looking' optic discs always normal. Caregivers beware!