

SREE BALAJI MEDICAL COLLEGE & HOSPITAL

DEPARTMENT OF OPHTHALMOLOGY

Enlargement of the Blind Spot Caused by Papilledema

Blind spot enlargement in papilledema has been attributed to either mechanical disruption of the integrity of the peripapillary perceptive elements by the swollen optic disk or to the Stiles-Crawford effect. We investigated the possibility that blind spot enlargement in papilledema is caused, at least in part, by a refractive scotoma due to peripapillary hyperopia. We reduced the enlarged blind spot in a patient with focal peripapillary hyperopia, without papilledema, to near normal size by using progressively stronger plus lenses. Similarly, with the addition of plus sphere, we reduced the size of the blind spot in five of six patients with papilledema, but in none of our normal subjects.

Mechanism

Raised Intracranial Pressure (ICP) → transmits via the subarachnoid space surrounding the optic nerve.

This causes axoplasmic flow stasis → optic nerve head swelling.

Swollen optic disc → pushes adjacent photoreceptor cells aside → increased area of non-functioning retina.

On perimetry → blind spot appears enlarged, especially horizontally and temporally.

Clinical Significance

Enlargement of blind spot is often the first field defect in papilledema.

It's reversible in early stages but may become permanent in chronic papilledema.

Visual acuity may remain normal initially, making field testing critical for early detection.

Important clue in idiopathic intracranial hypertension (IIH) diagnosis.

