

RESEARCH ARTICLE

CASE REPORT: GRADE IV HYPERTENSIVE RETINOPATHY

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ABSTRACT

We report a case of 45 yearold man who presented with painless loss of vision and was diagnosed with grade IV hypertensive retinopathy.

Keywords:

Hypertensive retinopathy,
Optic Neuropathy,
Macular Star.

INTRODUCTION

Hypertensive retinopathy describes a continuum of retinal changes in patients with elevated blood pressure.¹Hypertension is a risk factor for systemic conditions that can lead to target-organ damage. Specifically, hypertension may lead to multiple adverse effects to the eye that can inevitably cause cause retinopathy, optic neuropathy, and choroidopathy.²The signs of hypertensive retinopathy include constricted and tortuous arterioles, retinal hemorrhage, hard exudates, cotton wool spots, retinal edema, and papilledema. The signs of chronic arterial hypertension in the retina include widening of the arteriole reflex, arteriovenous crossing signs, and copper or silver wire arterioles (copper or silver colored arteriole light reflex).³

CASE REPORT

A 45 -year-old male presented in our outpatient department with history of painless vision loss in both eyes of over 1 week. There was no history of other systemic complains like headache, dizziness, nausea or vomiting. He was known case of hypertension. At evaluation, the best-corrected visual acuity in the right eye was 6/36 and 6/24 in left eye. Anterior segment examination showed no abnormalities for both eyes. The intraocular pressure was 16 mm Hg in both eyes. Posterior segment evaluation revealed disc edema, obliterated cup, tortuous vessels and blurring of disc margins. There was loss of the normal retinal-vein relation due to arteriolar narrowing,

cotton wool spots all over the arcades and involving the peripapillary area, flame-shaped hemorrhages and vascular tortuosity in the retinal periphery and macular star pattern (figure1 and 2a&b). On systemic evaluation, the patient had an arterial blood pressure of 220/140 mm Hg. This patient was classified as grade 4 retinopathy according to the Keith-Wagener-Barker classification system and as grade 4 according to the Scheie classification He was referred to emergency department for same.

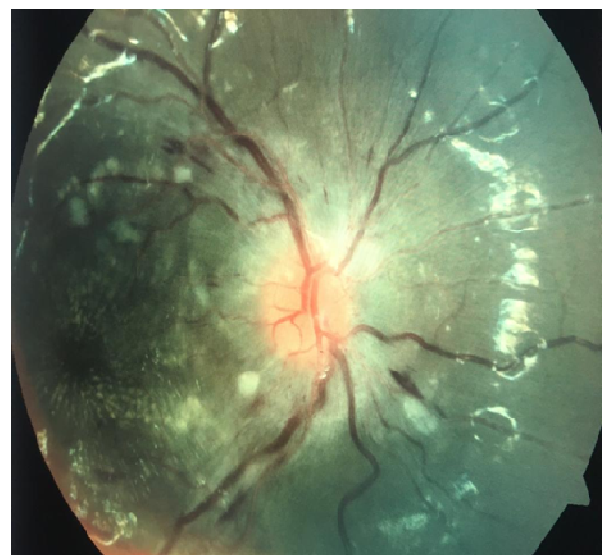


Figure 1. Fundus picture of right eye of patient of grade IV hypertensive retinopathy showing disc edema and macular star

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Figure 2 (a & b). Fundus picture of left eye of patient of grade IV hypertensive retinopathy showing disc edema and macular star

DISCUSSION

Hypertension is a disease that affects more than 1 billion of individuals throughout the world and is one of the leading causes of death. Up to 1% of all patients present hypertensive crises, which can be divided into hypertensive urgency if the condition is characterized only by increase of tensional levels, or hypertensive emergency, the latter being a situation that requires immediate reduction of blood pressure because of acute or progressive end-organ damage.⁴ Hypertensive retinopathy can cause a spectrum of clinical manifestations ranging from arteriolar narrowing to papilledema.⁵ Patients with malignant hypertensive retinopathy may present with blurry vision, decreased visual acuity, eye pain, and headaches.

The dilated fundoscopic examination and coexisting hypertension is paramount in establishing the correct diagnosis and classification of the disease.^{6,7} Hypertension may lead to optic neuropathy. Hypertensive optic neuropathy, specifically, presents as optic disk swelling.⁸ The signs include flame shaped hemorrhages at the disc margin, blurred disc margins, congested retinal veins, papilledema, and secondary macular exudates.⁹ Hard exudates can deposit in the macula causing a macular star. Optic nerve pallor is also present in patients with chronic hypertension. Treatment of a hypertensive crisis consists in the immediate control of blood pressure to prevent further end-organ damage.³

CONCLUSION

While evaluating a patient of disc edema both systemic and local causes should be kept in mind. Emergency physicians should ensure that all patients with severely elevated BP receive an appropriate screening examination of the fundus for signs of acute end-organ damage. Thus thorough ocular examination helps in early diagnosis and prompt treatment may prevent progress of disease and loss of vision.

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