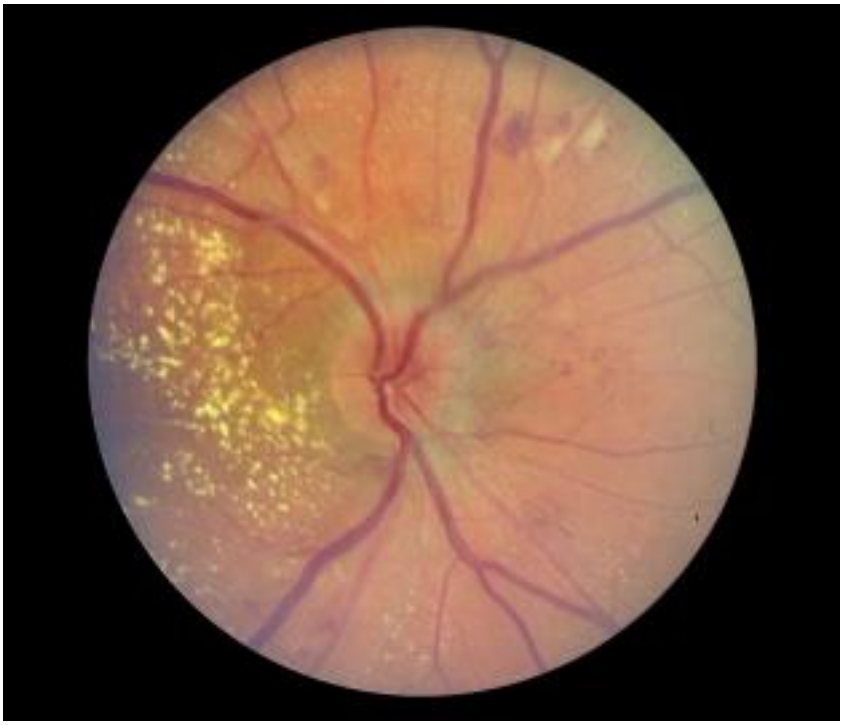
## Department of Ophthalmology

**Picture Quiz:**



Question: 55 year old male presenting with blurry vision of several weeks duration and severely elevated blood pressure on exam. What will be the most probable fundus finding?

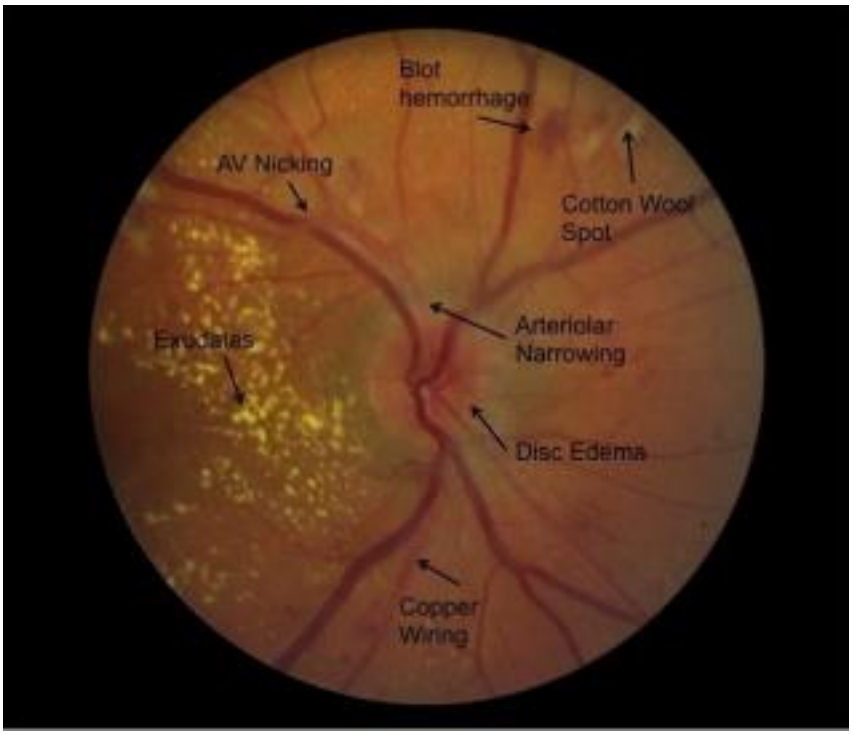
Ans.)Hypertensive retinopathy.

Hypertensive retinopathy is the result of changes to the retinal vasculature in high blood pressure. Initially, arteriolar tone is increased, over time involved vessels become sclerotic. Eventually, the blood-retina barrier can be disrupted, resulting in exudates, retinal ischaemia or haemorrhage.

The signs and symptoms of hypertensive retinopathy vary depending on whether the elevation in blood pressure is chronic or acute. Patients with chronic hypertension are often asymptomatic but can experience decreased vision.

Signs include arteriolar narrowing (with decreased size relative to corresponding venules), arteriovenous (AV) nicking (where arterioles cross venules), arteriolar sclerosis (with the appearance of copper wiring), flame haemorrhages, and cotton wool spots. (Refer figure)

Patients with acute or malignant hypertension can present with decreased vision and headaches, accompanied by significantly elevated blood pressure. On fundus examination, flame and dot blot haemorrhages, hard exudates, cotton wool spots, retinal edema, and papilledema (present in severe hypertensive retinopathy) can be seen. (Refer figure)




Q) What is the differential diagnosis?

Ans.) Diabetic retinopathy can present with similar findings and should be on the differential, especially in a patient with known diabetes. However, it usually lacks classic signs of AV nicking and arteriolar narrowing.

Retinal vein occlusions can share overlapping features as well, although they're more often unilateral.

Q) How will you manage this patient?

Ans.) The treatment for hypertensive retinopathy is primarily focused upon reducing blood pressure. For moderate to severe hypertensive retinopathy, reduce the mean arterial pressure by 10- 15% in the first hour. Blood pressure should be lowered in a controlled manner and not more than 25% compared to baseline by the end of the first day of treatment to prevent further ischaemic damage to target end organs. Initial treatment often requires parenteral antihypertensive agents and then transitioned to oral agents.

Goal-orientated hypertension treatment aims to lower systolic blood pressure to < 130 mm Hg and diastolic pressure to < 80 mm Hg over the next 2-3 months.