

HELLP presenting via the eye department as rapid visual deterioration and hypertension

Dr Elizabeth Goodier (ST4), Miss Jane Miller (Staff Grade), Miss Tatjana Nikisina (Consultant Obstetrician & Gynaecologist), Queen Alexandra Hospital, Portsmouth, UK

Objective – Visual disturbances are common in preeclampsia and HELLP, but it is unusual to present with rapid deterioration in vision or for it to be severely affected, particularly in isolation from other symptoms. We report on this case in order to raise awareness of this unusual presentation of HELLP

Case Study:

A 31 year old P0 presented to her optician with **rapid onset of visual disturbances** at 25+1. Two days later she attended the emergency eye clinic with **headache and bilateral poor vision**. She could see only hand movements with the right eye and had 6/60 acuity in the left. She was found to have extensive **serous retinal elevation** in both eyes with shifting subretinal fluid. Her BP was 165/120 so she was referred to obstetrics with suspected **preeclampsia**. On arrival on the labour ward her BP was 179/108 and she had proteinuria. She remained otherwise asymptomatic and had no other signs of preeclampsia. Her BP **was refractory to oral treatment**, so she was commenced on IVs, a growth scan was carried out to assess fetal condition and three consultants agreed that she should be **delivered for maternal reasons**. Her platelet count was $20 \times 10^9/L$ and she was transfused **2 units of platelets** prior to delivery, which took place by lower segment caesarean section under general anaesthetic soon after arrival in the department. She was admitted to ITU for blood pressure management. The baby, **born with significant IUGR at a birth weight of 533g**, passed away a few hours later. She returned to the labour ward after **less than 24 hours with well controlled BP and rapidly improving vision**.

With the kind permission of our patient and her partner

Basic Ophthalmology for Obstetricians

Up to 25% of patients with PET will experience ocular manifestations and up to 50% of those with eclampsia. Only 1-3% experience loss of vision.

Speaking to your Ophthalmologist

Every specialty uses its own language and definitions and elements of the history or examination that they would want to know at the point of referral. This is some revision of useful words, the implication of what they mean and tips on basic visual assessment.

Relative afferent pupillary defect (RAPD) – a condition in which pupils respond differently to light due to an asymmetrical disease of the optic nerve or retina.

Colour vision – affected by damage to the optic nerve. The patient complains of the colour red appearing “washed out.” For crude assessment, cover each eye in turn and show them something red. Does it look the same in both eyes?

Visual acuity – objective assessment of the ability to see fine detail, usually assessed using Snellen charts, but there are also apps for that! If assessing, use a patient’s normal visual aids if they have them. If corrected with glasses then the error is refractory. If not, then suspect another cause. **“Blurred vision”**– subjective inability to see fine detail

Photopsia – the perception of light as rays or flashes that is subjective and accompanies a pathological condition, especially of the brain or retina

Visual field defect – a blind area within the normal visual field of one or both eyes. Each eye should be examined independently as there is significant overlap between the visual fields of the left and right eyes. In retinal detachment you will see monocular visual defect. For crude assessment, ideally use a red pin or bottle top rather than the “waggly finger” technique.

Causes of sudden change in vision in relation to PET/ HELLP

SEROUS RETINAL DETACHMENT

Separation of the neurosensory retina from the pigmented retinal epithelium, an Ophthalmic emergency. Usually it occurs in the absence of significant retinal vessel abnormalities. It affects 1% of severe preeclampsics and up to 10% of patients with eclampsia. Typically it presents as **sudden loss of vision**, but after delivery the subretinal fluid is resorbed and the symptoms **resolve within a few weeks**, unless there has been necrosis of the retinal pigmented epithelium.

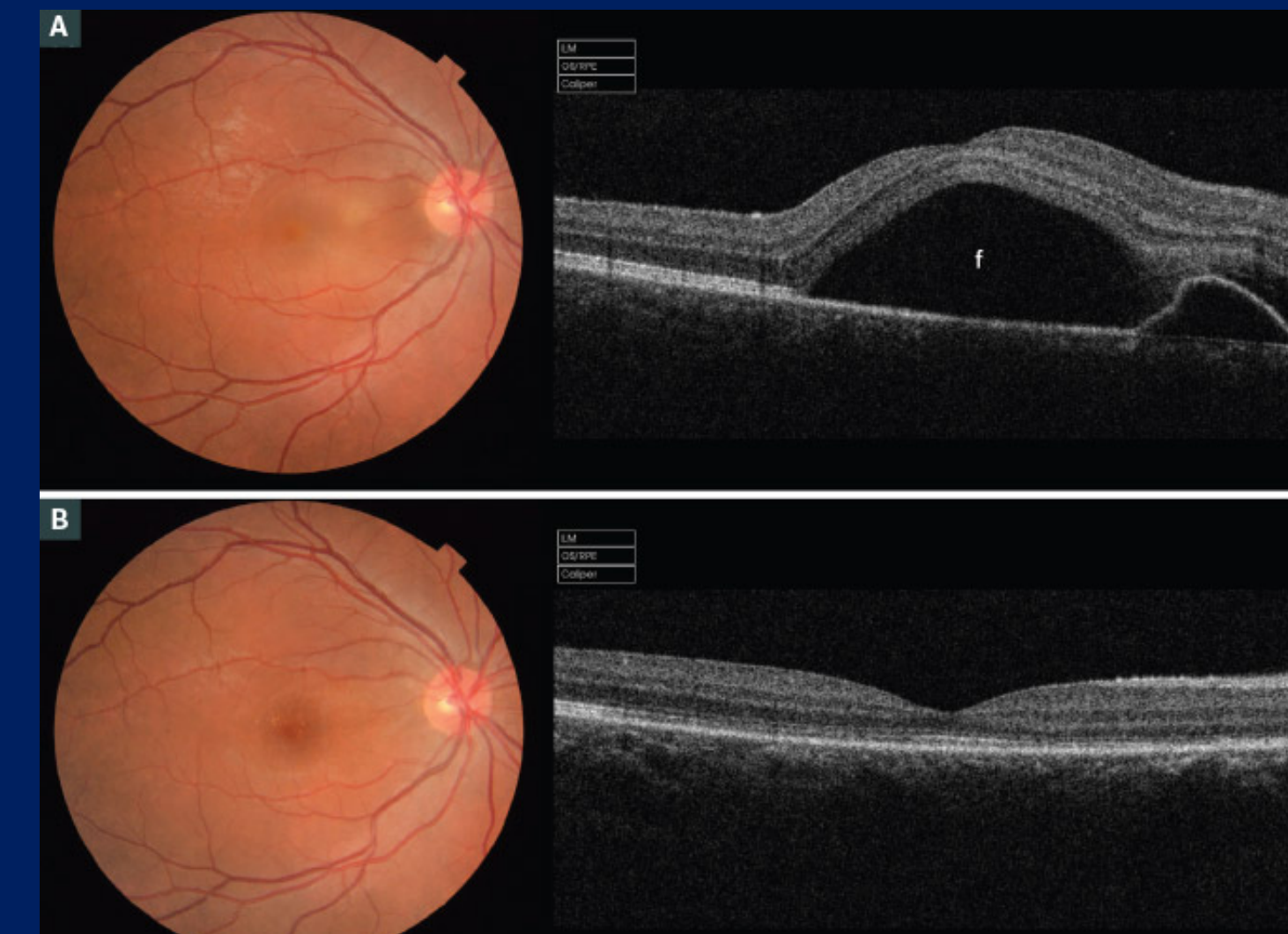
HYPERTENSIVE RETINOPATHY

Patients complain of headaches and blurred vision. Systemic HTN causes vasoconstriction of the retinal arteries. There is also extravasation of fluid into the extravascular spaces. Retinal changes include decreased retinal artery to vein ratio, cotton wool spots, haemorrhage and serous retinal detachment. A narrowing of the retinal arteries can be found in 50% of normal pregnancies and will resolve after delivery. The changes are similar to “normal” hypertensive retinopathy but without arteriosclerosis.

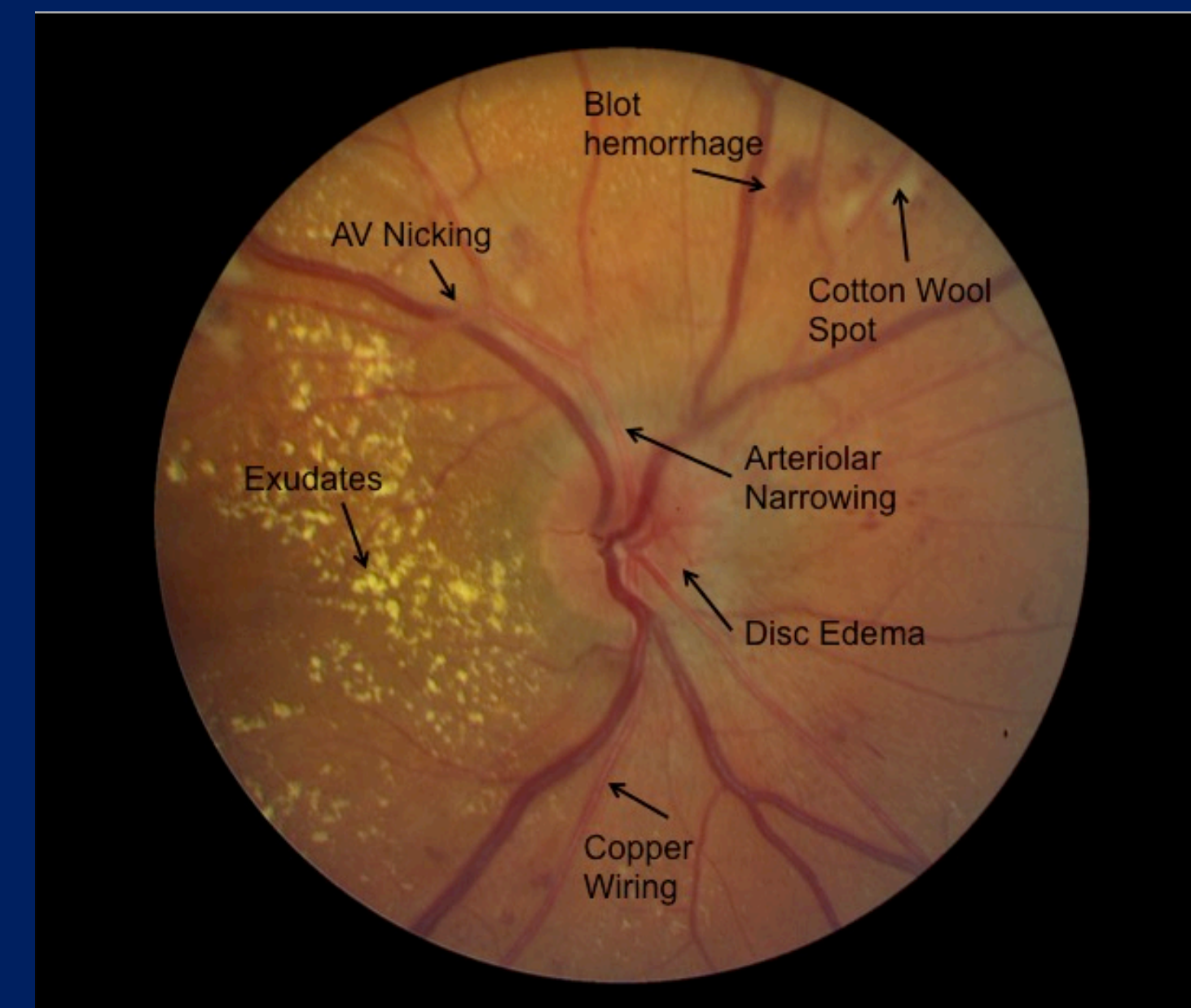
Studies suggest that the **degree of retinal artery vasospasm** does not correspond as much with the degree of HTN as with **the degree of placental insufficiency**.

CORTICAL BLINDNESS

Blindness occurring in the context of **normal fundoscopic examination and pupillary function**. The pathophysiology is not known; it may occur as a result of vascular vasospasm and cortical ischaemia, or as a result of capillary permeability and oedema in the occipital cortex. It may precede seizures a few hours. Changes may be seen on CT and MRI. However, typically vision will still return within 4 hours to 8 days of delivery.



Fundal examination and OCT of a woman with serous retinal detachment and resolution post partum.



Fundoscopic changes in hypertensive retinopathy

Discussion – this case highlights an uncommon presentation of HELLP and shows that the **most severe cases might be referred from unusual sources**. It might have been preferable for her to be seen by the eye casualty or the maternity assessment unit at the onset of symptoms, and perhaps this is an area of education for the women.

Conclusion - We should remain vigilant to these types of referrals, as it might be easy for women with **atypical presentations to be seen by the wrong specialist**, particularly at a time when many consultations take place virtually and therefore without the ability to perform simple bedside checks such as blood pressure and urine dips.

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