

Tuberculous Retinal Vasculitis

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Summary

A patient who was referred to the eye department for routine ocular assessment prior to commencement of anti-tuberculous therapy was found to have periphlebitis in both eyes despite being visually asymptomatic. Fluorescein angiography confirms the presence of vasculitis without any retinal oedema or areas of non-perfusion, which may sometimes accompany the condition. Within 2 months of systemic treatment, the ocular signs regressed without any permanent effect on vision. This case highlights a rare ocular complication associated with systemic tuberculosis which fortunately did not result in loss of vision due to prompt treatment.

Key Words: Tuberculosis, Retina, Vasculitis, Periphlebitis

Case Report

A 29-year-old female presented with a 3 month history of pyrexia, anorexia, weight loss and malaise. On examination, she had enlarged cervical lymph nodes bilaterally but with no other clinical signs. A chest X-ray did not reveal any abnormality while sputum and gastric lavage were negative for acid fast bacilli. Although the Mantoux reading was only 10 mm, a presumptive diagnosis of tuberculous lymphadenitis was made based on a lymph node biopsy which revealed caseating granulomatous reaction and Langerhan cells.

She was referred to the eye clinic for a baseline assessment prior to commencement of her anti-tuberculous therapy which consisted of an initial 2 months induction course of isoniazid (300 mg/day), rifampicin (450 mg/day), pyrazinamide (1.5 gm/day) and ethambutol (1 gm/day) followed by a maintenance dose of isoniazid and rifampicin for a further 4 months. Although she was visually asymptomatic, fundal examination revealed dilated tortuous retinal veins with perivenule cuffing and white-centred haemorrhages (pseudo-Roth spots) around these vessels (Fig 1). Her colour vision visual acuity and fields were entirely normal and no other ocular abnormalities were noted.

A fluorescein angiogram was performed to exclude fundal ischemia, which needs to be treated with using laser. There was staining of the veins which is characteristic of inflamed blood vessels with only a small localised area of non-perfusion but fortunately there was no evidence of retinal oedema or neovascularisation which may sometimes accompany retina vasculitis. Large areas of non-perfusion implies ischemia but in this case, the area was not significant and laser treatment was unnecessary. After 2 weeks of systemic treatment, there was regression of the vasculitis and the fundal appearances were normal at 3 months. Her visual acuity remained at 6/6 in both eyes.

Discussion

Despite improvement in public health care, tuberculosis remains a serious health problem especially with the emergence of human immunodeficiency virus and migrant workers who may not have the benefit of vaccination. Although almost any part of the body can be affected by *Mycobacterium tuberculosis*, primary infection of the eye is rare with an incidence of only 1.4%¹. The commonest route of infection is by haematogenous spread from a primary site elsewhere to



Fig. 1: Photograph of the right fundus demonstrates dilated tortuous retinal veins with perivenule cuffing (small arrows) and white-centred haemorrhages (pseudo-Roth spots) (large arrows). The white spot at the centre of the picture is an artefact due to the light flash

the highly vascular uvea resulting in characteristic choroidal tubercles and choroditis². Retinal vasculitis, which is even more uncommon, is thought to arise from a delayed hypersensitivity reaction in the vessel walls following sensitisation to the tuberculo-protein.

Regular ocular assessment is recommended at 3 to 6 monthly intervals in these patients because of the potential maculopathy and optic neuritis associated with antituberculous therapy especially when the patient has received a total dosage of ethambutol exceeding 25 mg/kg³. This patient was asymptomatic and her vasculitis was fortunately detected during such a routine examination by an ophthalmologist. Her condition responded to treatment without permanent damage to her retina and more importantly vision.

In summary, this case highlights the importance of screening patients undergoing anti-tuberculous therapy not only for monitoring the possibility of toxic dose-related effects associated with the drugs but also to exclude presence of coexisting sight-threatening ocular infection.

References

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