Sir,

Recurrent bilateral dengue maculopathy following sequential infections with two serotypes of dengue virus

Dengue fever (DF) by any one of the four serotypes (DEN-1 through -4) produces life-long immunity against re-infection by that same serotype but only temporary and partial protection against other serotypes.[1] We report a case of recurrent, bilateral dengue-related chorioretinopathy with two different dengue serotypes.

Case report

A 39-year-old Chinese female contracted DF serotype DEN-3 confirmed by polymerase chain reaction (PCR) on day 3 of her illness. Seven days after the onset of fever (platelet nadir 33×10^9/l), she complained of bilateral blurring of vision. Vision was 6/120 in the right and CF in the left. Posterior segment revealed macular cotton-wool spots, bilateral flame haemorrhages, and macula oedema with vascular sheathing (Figure 1). Optical coherence tomography showed cystic oedema of 607 and 825 μm for right and left respectively. Fluorescein angiogram demonstrated vascular leakage in all quadrants including maculae, retinal periphlebitis with right macular branch vein occlusion and severe macula oedema.

Subjectively, her vision and metamorphopsia improved spontaneously. Macular oedema resolved within 4 weeks and visual acuity returned to 6/6 by 13 weeks. The posterior uveitis and vasculitis resolved over 6 months leaving a persistent, non-progressive paracentral relative scotoma.

A year later, she developed another episode of DF with visual disturbance on the fifth day after the onset. Vision was 6/6 with mild macular oedema. Visual field assessment showed a central scotoma on the right and patchy defects on the left eye—both larger than that seen previously. Enzyme-linked immunosorbent assay-based serotyping performed on day 8 after the onset of her illness revealed antibodies to both DEN-2 and -3 strains, indicating a second infection with the DEN-2 strain (serologic studies during the first episode did not reveal any antibodies to DEN-2). Her symptoms resolved but scotomata persisted up till 2 years later.

Comment

Our patient initially developed bilateral dengue-related posterior uveitis and vasculitis caused by DEN-3 serotype. Her clinical course is consistent with previous reports of resolution without treatment.[2–5] However, she developed a relapse following re-infection with a different serotype (DEN-2). The different investigative methods were chosen based on the number of days after onset of her illness in each episode. PCR has high sensitivity in the first few days of illness but this drops off to about 50% on day 5/6 and rapidly falls after that. Serology requires the body to produce antibodies, which become detectable in 50% by about the sixth day of illness. Hence, PCR is best in early disease and serology is better in later disease. Systemic infection by one serotype provides partial protection against other serotypes, thus subsequent infections are possible. These tend to be more severe and more likely to cause dengue haemorrhagic fever.[6] Similarly, posterior uveitis that follows an infection by one serotype is not 'protective' and can relapse in subsequent infections with other serotypes. However, unlike recurrent systemic infections, these are not more severe than the first episode but may cause enlargement of residual functional scotomata.

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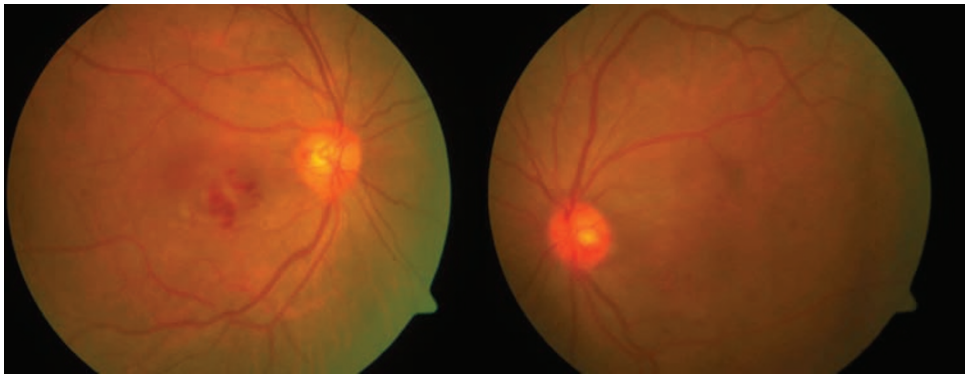

Figure 1 Posterior segment photographs showing cotton wool spots, flame haemorrhages, macula oedema and vascular sheathing in both maculae.

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Sir,

Photorefractive keratectomy in iris and choroidal coloboma using Pulzar Z1 solid-state technology from Customvis, Australia

Reduced corneal diameter and peripheral corneal changes similar to aniridia[1–3] can occur in iris coloboma. We present a case of iris coloboma in which photorefractive keratectomy (PRK) was performed.

Case report

A 22-year-old female patient presented with refraction of $-9.25/-0.50 \times 70$ (6/6) in the right eye and $-3.00/-1.00 \times 170$ (6/6) in the left eye. The right eye was within the normal limits and the left eye revealed typical inferonasal iris coloboma. Retinal evaluation revealed an inferonasal choroidal coloboma. An additional small island of choroidal coloboma was present.

The average keratometry values showed 44.97 D in the right eye and 43.80 D in the left eye using iTRACE (Tracey Technologies, TX, USA). The corneal thickness was 498 μm in the right eye and 548 μm in the left eye. Corneal diameter in the right eye was 11.0×11.5 mm and in the left eye was 10.0×10.5 mm.

In the right eye, LASIK was performed with a flap of 8.5 mm and an optic zone of 5.5 mm. The residual bed after ablation was 270 μm in the left eye. PRK was performed using the Pulzar Z1 small 0.6 mm Quasi Gaussian beam, with fast closed-loop eye tracking and advanced solid-state scanning technology. The epithelium was debrided mechanically and was found to be very loose. Ablation was performed with a 0.6-mm spot size laser centred on the visual axis. An optic zone of 6.5 mm and a transitional zone of 8 mm were utilized. The ablation was centred to visual axis. Mitomycin-C 0.02% on a sponge was applied for 1 min. A bandage contact lens was applied.

Routine post-operative care was given. The patient attained an unaided visual acuity of 6/6 in both the eyes at the end of 2 months. Trace haze was seen in her left eye.

Discussion

We present this case to highlight that PRK would be a useful option in patients with iris and choroidal coloboma. In the left eye of this patient, PRK was decided because of the risk of LASIK flap-related complications in view of the corneal diameter being smaller and the overall abnormal contour of the anterior segment. There may be risk of stem cell damage with the suction ring aggravating corneal vascularization. Loose epithelium, as it happened in this case, may predispose to decreased flap adherence and increased risk of diffuse lamellar keratitis.

The problems that we encountered in this patient were loose corneal epithelium and difficulty in identifying the centre of the pupil. Ablation was centred on the visual axis with a large optic zone.

The visual results of this patient were very good, 6/6 at the end of 2 months. Trace haze was seen, though it is our experience to not see a haze in low-to-moderate myopia using spot laser and mitomycin C.

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Sir,

Jarisch–Herxheimer reaction: paradoxical worsening of tuberculosis chorioretinitis following initiation of antituberculous therapy

Jarisch–Herxheimer reaction (JHR) describes paradoxical worsening following chemotherapy. Here, We report a case of JHR comprising retinal vasculitis and vitritis following initiation of antituberculous therapy (ATT).