Multimodal Imaging and Treatment of Coats Disease

Case report

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Coats disease is an idiopathic retinal vascular disorder characterized by telangiectasias, exudates and hemorrhages and tends to be unilateral.

Although it does not have specific racial or ethnic associations it preferentially affects males.

It is a relatively rare disease with a reported incidence of 0.09 per 100,000 of the population.
Case report

- A 36-year-old man presented with blurry vision in the left eye for the past 2 weeks

- BCVA was 20/40 in left eye

- Fundus examination revealed perifoveal exudates with capillary abnormalities and peripheral exudates in inferotemporal quadrant associated with telangiectatic vessels

- The diagnosis of Coats disease is established with fundus examination and confirmed by diagnostic testing
Color fundus photography showing small perifoveal capillary abnormalities and exudates. Capillary abnormalities, exudates and intraretinal haemorrhages was also found in periphery (inferotemporal quadrant).
SD-OCT (Spectralis, Heidelberg Engineering, Germany) showing cystoid macular edema with intraretinal fluid and central macular thickness was measured to 415 μm
Early-phase fluorescein angiography (Spectralis HRA, Heidelberg Engineering, Germany) revealed perifoveal telangiectasias. Telangiectasias also found in the periphery. Late-phase fluorescein angiography showing leak from macular telangiectasia.
The macular edema in our patient was due to diffuse leakage from the telangiectasias of the perifoveal vasculature.

Patient was treated with 3 anti-VEGF (Avastin) intravitreal and 1 Sub-Tenon Triamcinolone Acetonide injections in left eye.

He also received focal laser photocoagulation in the paramacular area and inferotemporal quadrant.

The eye responded poorly to injections and also laser treatment was not enough to resolve the macular edema.

Post treatment BCVA remained 20/40 in left eye.
Fluorescein angiography 4 months after injections and laser treatment. Late phase showing leak from macular telangiectasia. There is no leakage in periphery.
Post-treatment SD-OCT showing persistent cystoid macular edema with intraretinal fluid and central macular thickness was measured to 398 μm.
Conclusions

- Coats disease is a rare retinal condition that can cause significant visual morbidity due to macular oedema

- Diagnosis is established with fundus examination and confirmed by diagnostic testing

- It is difficult to decide an optimal treatment because guidelines on treatment are not well defined

- Treatment with laser photocoagulation, intravitreal anti-VEGF agents and steroids has shown mixed results