WIDEFIELD FLUORESCEIN ANGIOGRAPHY IN COATS DISEASE

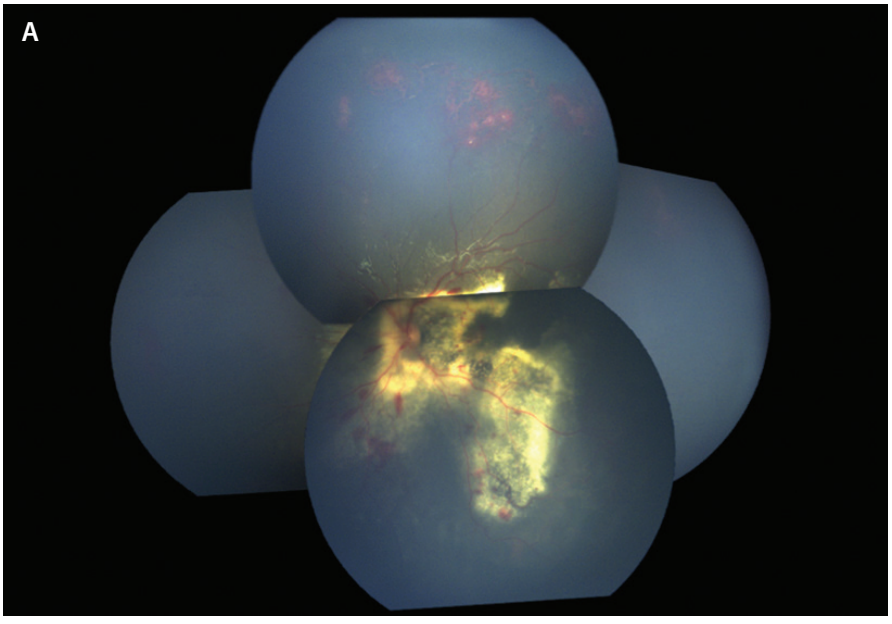

Imaging was essential in guiding the treatment for this pediatric patient.

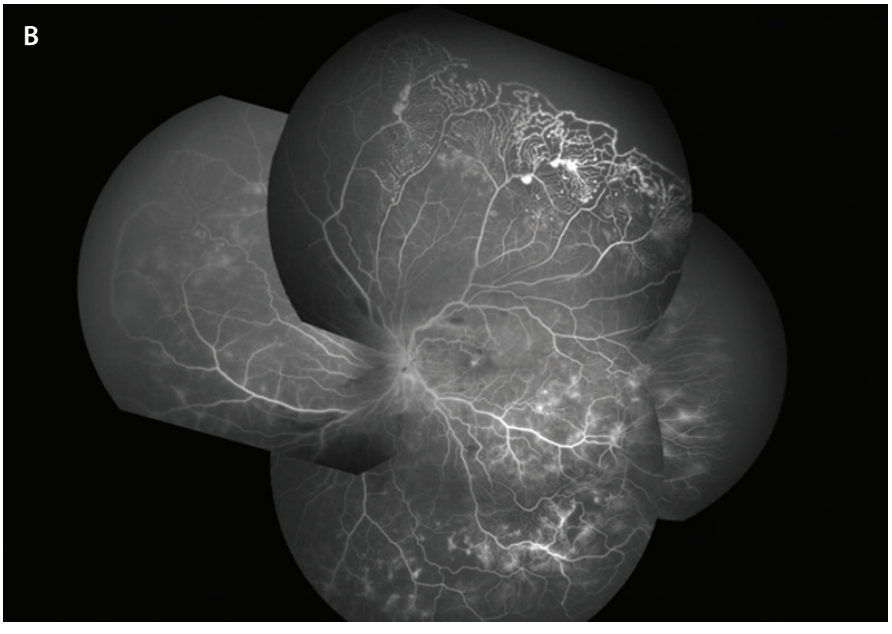
BY BOONTIP TIPSURIYAPORN, MD; AND YOSHIHIRO YONEKAWA, MD

A 3-year-old girl presented with leukocoria in the left eye. The anterior segment in each eye was normal. Fundus examination of the left eye showed extensive exudates in the posterior pole, subretinal fluid from arcade to arcade, retinal hemorrhages, and extensive telangiectatic vessels throughout the periphery with aneurysmal lesions superiorly (Image A). No mass lesions were observed. Widefield fluorescein angiography (WFA; RetCam 3, Natus) demonstrated diffuse vascular leakage, telangiectasia, aneurysms in the periphery, and large areas of capillary dropout and nonperfusion (Image B). The vascular findings on WFA were classic for Coats disease.

Laser photocoagulation, intravitreal bevacizumab (Avastin, Genentech), and sub-Tenon triamcinolone were administered. The laser was used to photocoagulate the nonperfused retina, to apply long duration laser burns to close the aneurysms, and to paint the incompetent vessels. The patient required three more treatment sessions before the vascular leakage resolved and there was substantial improvement of the exudation and resolution of the subretinal fluid.

Coats disease is a retinal vascular abnormality characterized by idiopathic retinal vascular telangiectasia and microvascular aneurysmal changes that can cause exudation and exudative retinal detachment.[1]





COATS DISEASE IS A RETINAL VASCULAR ABNORMALITY CHARACTERIZED BY IDIOPATHIC RETINAL VASCULAR TELANGIECTASIA AND MICROVASCULAR ANEURYSMAL CHANGES THAT CAN CAUSE EXUDATION AND EXUDATIVE RETINAL DETACHMENT.

The mainstay of management of Coats disease is photocoagulation to treat the nonperfused retina and to obliterate the aneurysms and leaking vessels.[1,2] Anti-VEGF injections and periocular steroids are not routinely administered but may be used as adjunctive treatments for severe disease.[3] Vitreoretinal surgery may be necessary for extensive retinal detachment; in that event, we recommend an external drainage approach.[4] WFA imaging is essential to identify all vascular pathology that must be lasered, and it can also provide data on when to stop treatment and be used for follow-up surveillance.[5] ■

1. Shields JA, Shields CL, Honavar SG, Cater J. Classification and management of Coats disease: the 2000 Proctor Lecture. *Am J Ophthalmol*. 2001;131(5):572-583.
2. Ong SS, Buckley EG, McCuen BW 2nd, et al. Comparison of visual outcomes in Coats' disease: a 20-year experience. *Ophthalmology*. 2017;124(9):1368-1376.
3. Sein J, Tzu JH, Murray TG, Berrocal AM. Treatment of Coats' disease with combination therapy of intravitreal bevacizumab, laser photocoagulation, and sub-Tenon corticosteroids. *Ophthalmic Surg Lasers Imaging Retina*. 2016;47(5):443-439.
4. Kusaka S. Surgical management of Coats disease. *Asia Pac J Ophthalmol*. 2018;7(3):156-159.
5. Yonekawa Y, Chan RVP. Widefield imaging-guided treatment of pediatric vitreoretinal diseases. *Retina Today*. March 2014: 54-57.

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