Case Series: Widefield Retinal Imaging Characteristics of Biopsy Proven Sarcoid Associated Uveitis

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Purpose:

To describe the ultrawide field angiography features of biopsy proven sarcoid uveitis patients. This work aims to identify the array of presentations on widefield fluorescein angiography and indocyanine green angiography in order to assist in the diagnosis and treatment of sarcoid uveitis patients.

Methods:

In this retrospective IRB approved study, 79 patients were identified with biopsy proven positive sarcoidosis. 25 of these patients were found to have widefield retinal imaging suggestive of posterior segment involvement. These patients were categorized into (1) diffuse leakage, (2) focal leakage, (3) non-perfusion, or (4) choroidal lesions. Optic nerve hyperfluorescence was also evaluated. Diffuse leakage was defined as greater than one quadrant, and focal leakage less than or equal to one quadrant. Choroidal lesions were defined by an unremarkable fluorescein angiogram as well as distinctive punched out hypocyanescent spots on indocyanine green testing.

Results:

5 patients (20%) demonstrated diffuse leakage. Focal leakage was the most common finding on fluorescein angiogram, with 14 patients (56%). Retinal vascular nonperfusion was seen in 3 patients (12%). 14 of the 25 patients (56%) underwent indocyanine green testing, revealing choroidal lesions in 5 patients (20%), displaying a normal fluorescein angiogram and underlying punched out hypocyanescent lesions. 8 patients (32%) had a hyperfluorescent optic nerve, including all 5 of the diffuse leakage patients. 22 patients (88%) were undergoing treatment with prednisone or immunomodulatory systemic therapy.

Conclusions:

On widefield angiography, biopsy-proven sarcoidosis patients display a wide array of findings. While sarcoid patients can indeed demonstrate either focal or diffuse leakage, they can also present with profound nonperfusion. Additionally, they may present with occult choroidal lesions, masked by unremarkable fluorescein angiogram but illuminated with indocyanine green with multiple hypocyanescent lesions. The treating clinician should bear in mind this diversity of presentation when considering workup and treatment of uveitis patients.