Clinical and multimodal imaging findings in posterior scleritis

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Background:

- Posterior scleritis is a rare inflammatory condition that primarily affects the sclera localized behind the insertion of the recti muscles.
- Diagnosis may be challenging. Posterior scleritis may mimic other ophthalmic inflammatory conditions or ocular tumors.
- Purpose : to describe clinical findings and multimodal imaging results in posterior scleritis.

Patients & Methods:

- Retrospective review of the charts of 14 patients (16 eyes) with posterior scleritis.
- All patients underwent detailed complete ophthalmic examination
- B-scan ultrasonography: all patients
- Optical coherence tomography (OCT): 8 patients
- Fluorescein angiography (FA): 13 patients
- Indocyanine green angiography (ICGA): 10 patients

Results:

- Mean age: 35.3 years
- 11 females (78.6%), 3 males (21.4%)
- Mean initial best-corrected visual acuity (BCVA): 20/25
- Ocular pain: 11 cases (78.6%)
- Vision blurring: 9 eyes (56.3%)
- Associated anterior scleritis: 5 eyes (31.2%)

Table 1. Fundus findings

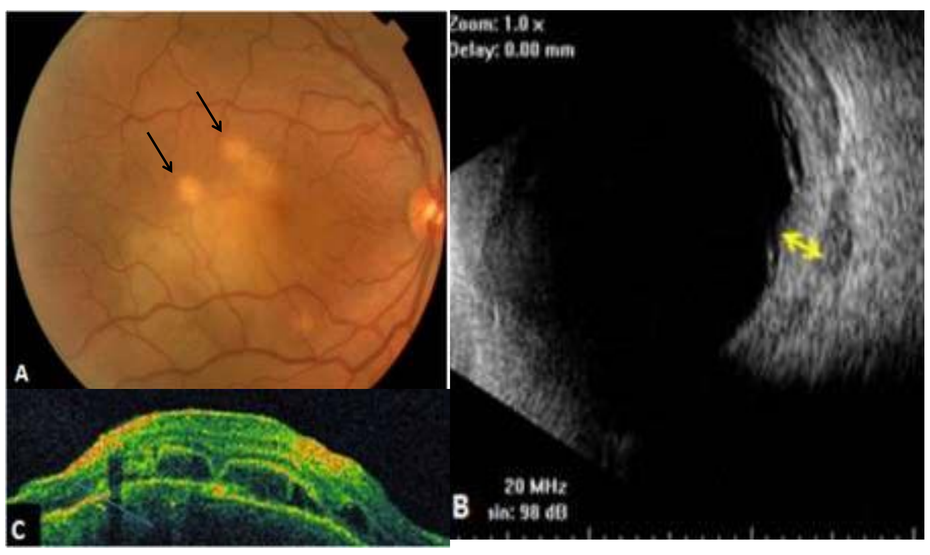
Findings	Number of eyes (%)
Retinal striae	8 (50)
Serous retinal detachment (SRD)	5 (35.7)
Optic disc swelling/ hyperemia	4 (25)
Deep yellowish lesions	5 (31.25)

Table 2. Multimodal imaging results

Imaging test	Imaging Finding	Number of eyes (%)
B-Scan ultrasonography (16 eyes)	High reflective sclero-choroidal thickening with retrobulbar edema	16 (100%)
Optical coherence tomography OCT (10 eyes)	Exudative retinal detachment (ERD)	7 (70%)
	ERD with subretinal septa	2 (20 %)
	Retinal pigment epithelial folds and bulge	3 (30 %)
	Retinal folds	3 (30%)
Fluorescein angiography FA (15 eyes)	Delayed choroidal perfusion	6 (40 %)
	Pinpoints	8 (53.3 %)
	Dye pooling	6 (40 %)
	Choroidal folds	3 (20 %)
	Optic disc hyperfluoresence	10 (66.7)
Indocyanine green angiography ICGA (12 eyes)	Delayed choroidal perfusion	2 (16.7%)
	Hypofluorescent dark dots	7 (58.3 %)
	Zonal hyperfluorescence	2 (16.7)

Fundus

B-scan ultrasonography

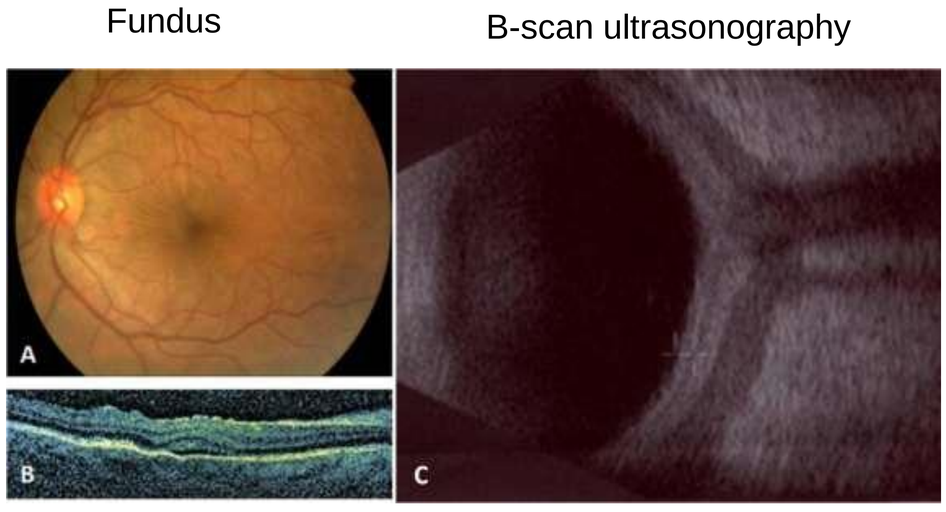


OCT

Figure 2. Posterior scleritis in a 36-year-old male patient. Fundus photograph shows macular deep yellowish lesions (arrows) and ERD (A). B-scan ultrasonography shows high reflective sclero-choroidal thickening with retrobulbar edema and ERD (B). OCT shows ERD with sub-retinal septa and retinal pigment epithelium bulge (C).

Fundus

B-scan ultrasonography



OCT

Figure 1. Posterior scleritis in a 25-year-old female patient. Fundus photograph shows numerous retinal striae in the posterior pole (A). OCT shows retinal pigment epithelial and retinal undulations, and shallow ERD (B). B-scan ultrasonography (C) shows high-reflective sclero-choroidal thickening with retrobulbar edema (T-sign).

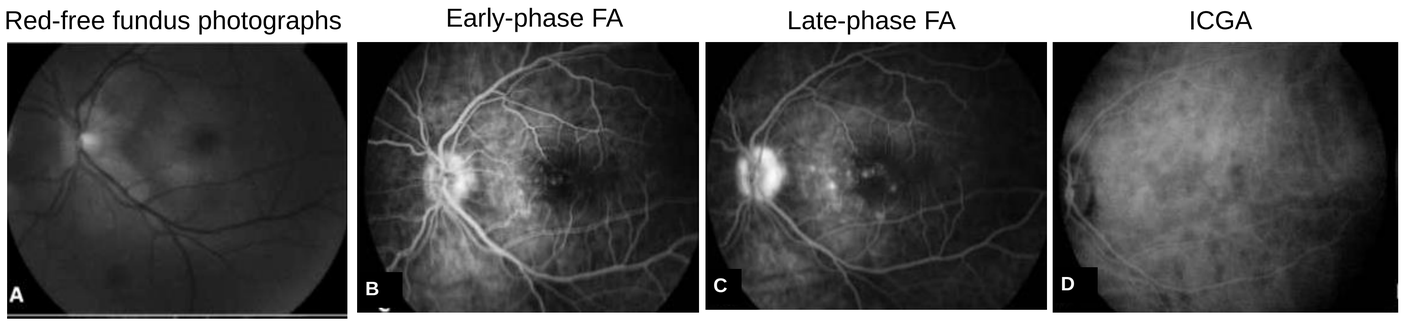


Figure 3. Posterior scleritis in a 35-year-female patient. Red-free fundus photograph shows macular ERD (A). Early-phase (B) and late-phase (C) fluorescein angiograms show delayed choroidal perfusion, pinpoint leakage, and optic disc hyperfluoresence. Intermediate phase indocyanine green angiogram shows hypofluorescent dark dots (D).

Conclusions:

- OCT, FA, and ICGA, provide useful diagnostic clues in posterior scleritis.
- Findings in posterior scleritis may have similarities with those in acute Vogt-Koyanagi-Harada disease. However, unilateral involvement, ocular pain and typical ultrasonography results support the diagnosis of posterior scleritis.