

*Research Article***Optical coherence tomography findings in Behçet's disease.**

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Abstract

Purpose: To prospectively study optical coherence tomography findings in Behçet's disease (retinal, choroidal and peripapillary retinal nerve fiber layer).

Methods: Forty eyes of twenty five patients of Behçet's disease to investigate changes occur in the macula, choroid and RNFL using spectral domain OCT.

Results: CSFT was 278 ± 122.3 , Choroidal thickness was 378.9 ± 48.4 and average RNFL was 110.4 ± 22.5 . Diffuse macular edema represented 37.4%, CME represents 18.8%, mixed type 18.8% and microcystoid macular oedema 12.5%. ERM detected clinically in 18.8% of cases but by OCT detected in 68.8% of cases with 43.8% macular traction.

Conclusion: Behçet's disease causes increased choroidal, macular, and RNFL thickness.

Keywords: Behçet, RNFL, macula, choroid.

Introduction

Behçet's disease (BD) is a chronic, recurrent, inflammatory systemic occlusive vasculitis of unknown etiology affecting both arteries and veins in all organs with wide range of clinical manifestations. Its ocular involvement occurs in approximately 70% to 90% of patients in the form of anterior uveitis, posterior uveitis, optic neuropathy, and retinal vasculitis⁽¹⁾.

Optical coherence tomography used to understand pathological changes of the neurosensory retina in Behçet's uveitis. The OCT findings in Behçet's uveitis; macular edema, retinal thickening, Macular hole, and increased choroidal thickness⁽²⁾.

Patient and methods

Twenty eyes of fifteen patients of Behçet's disease included to investigate changes

occur in the macula, choroid and RNFL using spectral domain OCT.

Careful history taken, visual acuity assessment, anterior segment (using slit lamp examination) and posterior segment examination (fundus examination, F.A, and OCT).

Results

CSFT was 278 ± 122.3 , Choroidal thickness was 378.9 ± 48.4 and average RNFL was 110.4 ± 22.5 . Diffuse macular edema represented 37.4%, CME represents 18.8%, mixed type 18.8% and microcystoid macular oedema 12.5%. ERM detected clinically in 18.8% of cases but by OCT detected in 68.8% of cases with 43.8% macular traction.

Table 1: Macular edema type in Behçet's disease.

Macular edema type	
Absent	2 (12.5%)
Cystoid	3 (18.8%)
Diffuse	6 (37.4%)
SRD	0 (0%)
Mixed	3 (18.8%)
Microcystoid	2 (12.5%)

Table 2: Mean±SD of CSFT, cube average thickness, choroidal thickness and average RNFL in Behçet's disease.

CSFT	278 ± 122.3
Cube average thickness	323.7±60.3
Choroidal thickness	378.9±48.4
Average RNFL	110.4 ± 22.5

There is a +ve significant correlation between macular edema detected by OCT , CSFT, cube average thickness, disc swelling and average RNFL while a–ve significant correlation between foveal atrophy and macular edema also between ELM disruption and visual acuity.

Also, there is a +ve significant correlation between macular edema detected by OCT, CSFT, cube average thickness, average RNFL & IS/OS disruption and choroidal thickness and a significant –ve correlation between foveal atrophy and choroidal thickness.

Discussion

In 2013, Min Kim et al, evaluated choroidal thickness in BD using EDI-OCT scans in 30 eyes from 30 Korean patients and compared the subfoveal choroidal thickness in these eyes of posterior uveitis. Subfoveal choroidal thickness during the acute stage (398.77±155.59µm). In our study choroidal thickness in BD group was 378 ±48.9 µm.

They also found more subfoveal choroidal thickening during the active phase of Behçet's uveitis, compared with the quiescent phase in the same eyes. In comparison with the age-matched, sex-matched, and spherical equivalent matched group, subfoveal choroidal thickness in the quiescent phase was also significantly greater this agrees strongly with our study as we faced in our study cases with bilateral Behçet's uveitis one eye in active stage while the other eye in quiescent stage and

we noticed increased choroidal thickness in both eyes.

They also speculated that this might be due to subclinical inflammatory activity of the choroid during the quiescent phase, which could exacerbate, leading to an acute recurrent attack of uveitis. 5,24 and we support this as the quiescent BD eyes with increased choroidal thickness developed exacerbations with recurrent attack of uveitis and so, we suggest that choroidal thickness can be taken as a prognostic factor to detect subclinical cases⁽³⁾.

In 2009, Iaccarino G. et al, suggested primary choroidal vasculitis as the cause of choroidal thickening in eyes with Behçet's uveitis. In our study we found 93.8% of BD patient had vasculitis accompanied with increased choroidal thickness⁽¹⁾.

In 2013, Sumru Onal, et al described a finding not previously described which is the occurrence of RNFL defects in Behçet's uveitis with thinning detected by OCT. But in our study we measured the average RNFL thickness and we found thickening of average RNFL which was 110.4 ± 22.5µm in 14 eyes in active stage while we detected RNFL thinning in 2 eyes in quiescent stage⁽⁴⁾.

References

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