

EVALUATION OF CHOROIDAL PARAMETERS in BEHÇET'S DISEASE

Sibel Kadayıfçılar^a, MD; Onur İnam^{a,b}, MD

^aHacettepe University, Faculty of Medicine, Department of Ophthalmology

^bHacettepe University, Faculty of Medicine, Department of Biophysics

Financial interests: none

PURPOSE: To assess choroidal parameters with optical coherence tomography (OCT) in different ocular forms of Behçet's Disease (BD).

METHODS: Patients with BD were grouped as active uveitis (Group 1, 13 subjects, 26 eyes), uveitis in remission (Group 2, 24 subjects, 45 eyes), end-stage ocular (Group 3, 9 subjects, 15 eyes) and non-ocular (Group 4, 18 subjects, 36 eyes). Fifty eyes of 25 age and sex matched healthy persons were enrolled as controls (Group 5). Sd-OCT images, taken with Heidelberg Spectralis, were evaluated retrospectively. From the scans obtained with EDI mode, subfoveal choroidal area of 1500µm were analysed employing an image binarization tool. Central foveal thickness (CFT), central choroidal thickness (CCT), total choroidal area (TA), luminal area (LA), stromal area (SA), luminal area percent (also called CVI), stromal area percent (SAP) and luminal to stromal ratio (LSR) were calculated. Student's t test was employed in statistical analyses.

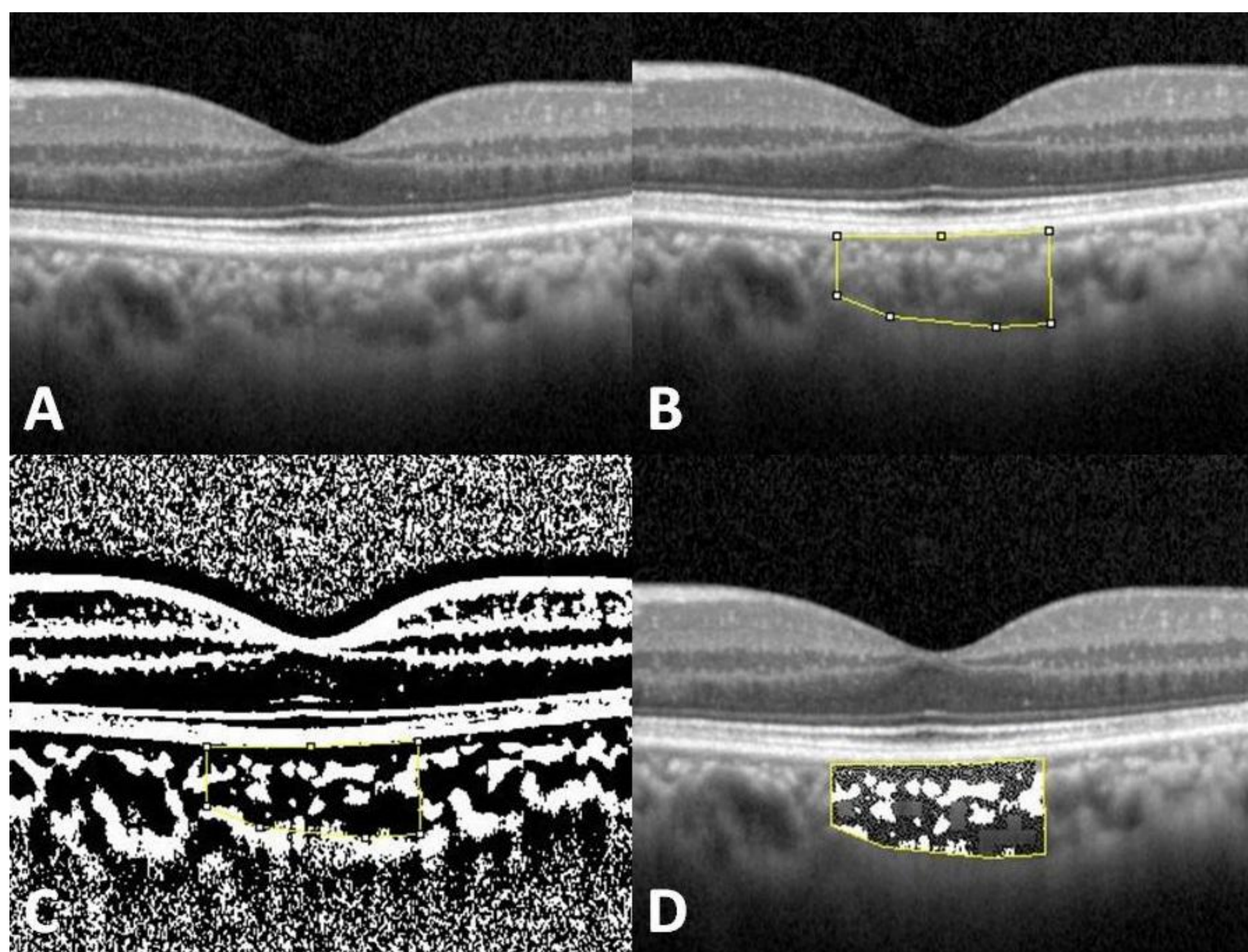


Figure-1:

A: Raw Sd-OCT Image With EDI Mode

B: Polygonal Selection of Subfoveal 1500µm Area

C: Binarization of The Image

D: Choroidal Vascularity of Selected Subfoveal 1500µm Area

RESULTS: CFT was significantly thicker in Groups 1, 2 and 4, compared to group 5 ($p \leq 0.000$, $p = 0.015$, and $p \leq 0.000$ respectively). CCT, TA, LA, SA, LSR and CVI were significantly lower in Group 3 compared to Group 5 ($p \leq 0.000$, $p \leq 0.000$, $p \leq 0.000$, $p \leq 0.000$, $p = 0.003$, $p \leq 0.000$). SAP was significantly higher in group-3 ($p \leq 0.000$). CVI and LSR were significantly higher in Group 4 compared to Group 5 ($p = 0.016$, $p = 0.011$).

Table-1: Patient Demographics

Parameter	Group-1	Group-2	Group-3	Group-4	Group-5
Number of Subjects	13	24	9	18	25
Number of Eyes	26	45	15	36	50
Female/Male	3/10	7/17	4/5	9/9	10/15
Age	34.09±10.48 (20-53)	41.41±13.27 (17-68)	43.46±13.68 (22-67)	39.78±10.73 (17-57)	39.44±9.40 (21-55)

Table-2: CVI and Other Parameters

Parameter	Group-1	Group-2	Group-3	Group-4	Group-5
CFT (µm)	238.00±92.44	195.89±40.92	206.80±194.27	204.61±19.67	179.40±22.47
CCT (µm)	338.88±107.14	314.91±98.19	184.87±62.72	322.06±73.89	298.58±83.43
TA (mm ²)	0.519±0.187	0.450±0.149	0.259±0.092	0.443±0.098	0.471±0.135
LA (mm ²)	0.352±0.127	0.303±0.102	0.160±0.064	0.307±0.075	0.314±0.086
SA (mm ²)	0.168±0.066	0.147±0.053	0.099±0.032	0.136±0.030	0.157±0.051
CVI	68.18±4.74	67.28±4.53	60.08±10.01	69.02±3.76	67.19±2.81
SAP	31.82±4.74	32.72±4.53	39.92±10.01	30.98±3.76	32.91±2.81
LSR	2.21±0.51	2.11±0.43	1.61±0.48	2.28±0.41	2.07±0.29

DISCUSSION: Choroidal parameters differed in BD. Choroidal stromal area was increased in end stage ocular disease, and luminal area was increased especially in the non-ocular form.