



A.I.O.N.: Vascular findings with Scanning Laser Doppler Flowmetry

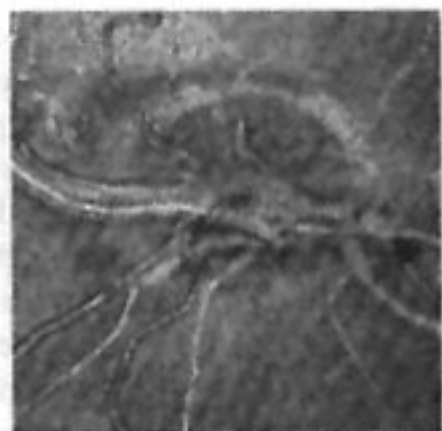
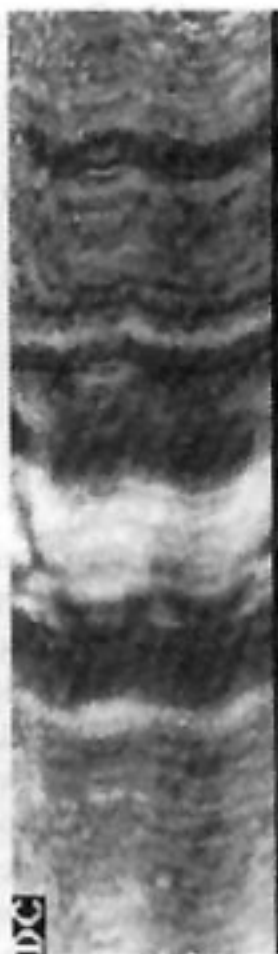
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Abstract

Purpose: To find the vascular effects of the anterior ischemic optic neuropathy on the optic nerve head. *Material and methods:* Scanning Laser Doppler Flowmetry was performed on 60 normal volunteers, also on 33 patients with Anterior Ischemic Optic Neuropathy (A.I.O.N). Patients were examined with the Heidelberg Retina Flowmeter, by Scanning Laser Doppler Flowmetry, (680 nm), and Flow, Volume and Velocity were assessed in each report. Perfusion maps have been reconstructed with the new SLDF software, version 3.2, called AFFPIA. (Automatic Full Field Perfusion Analyzer). Visual acuity, visual field, fundus examination and Doppler studies were also recorded. *Results:* In this preliminary report, it was found that eyes with AION present a decreased flow in the neuroretinal rim area, corresponding to the prepapillary capilar plexus. The flow values were almost normal, (but also decreased) in the peripapillary area, both temporal and nasal. Rim flow shows a significant difference with control group values ($p < 0.001$) while temporal and nasal peripapillary flow values demonstrate no significant differences, (N.S.) *Conclusion:* Prepapillary capilar plexus seems to be the most affected zone by anterior ischemic optic neuropathy, while the peripapillary zone seems to remain almost normal. *Discussion:* H.R.F is a good tool in order to study blood flow at the optic nerve head in ischemic disorders.

A.I.O.N.: EXAMPLE

SIGNIFICANT RIM FLOW
DECREASE.

DC



Vel

NORMAL: EXAMPLE

TEMPORAL, NASAL, AND RIM
FLOWS ARE NORMAL.

DC



Vel

RESULTS:	CONTROL GROUP	A.I.O.N.	STATISTICS
RIM FLOW	600.01	203.97	P < 0.001
TEMPORAL FLOW	584.20	394.48	P > 0.05 (NS)
NASAL FLOW	567.30	389.52	P > 0.05 (NS)

Kruskal Wallis Population Test.

