coefficients showed that all Heidelberg Retina Tomograph II cup parameters as well as the photographically determined vertical cup-disc ratio were positively correlated and rim parameters were negatively correlated with the IOP values measured on the same days. Notably, disc size and axial length but not corneal curvature varied with cup size, which was influenced by IOP fluctuation (Table).

Comment. Previous studies that also used the Heidelberg Retina Tomograph as well as those that used other techniques have demonstrated the reversibility of cupping in adult cases of glaucoma. Those studies claimed that the compliance and position of the optic disc and lamina cribrosa were primary determinants for the cup reversal. Sigal et al proposed that elevated IOP deforms ONH tissues indirectly through its influence on the sclera rather than direct action on the internal surface of the ONH. According to them, the highest magnitude of compression occurred within the ONH neural tissues. Asymmetrical deformation of the optic disc and axial length fluctuations correlated with IOP under conditions of stable corneal curvature. This may clinically support the idea that scleral biomechanics play a critical role in the reversibility of cupping after IOP reduction. As raised by Lesk et al, younger age may contribute to the elastic scleral properties. Meanwhile, the negative correlation of rim parameters with IOP fluctuations may reflect the neural tissue strain and plasticity.

Yoko Kakutani, MD
Makoto Nakamura, MD, PhD
Azusa Nagai-Kusuhara, MD, PhD
Akiyasu Kanamori, MD, PhD
Akira Negi, MD, PhD

Correspondence: Dr Nakamura, Division of Ophthalmology, Department of Surgery, Kobe University Graduate School of Medicine, 7-5-2, Kusunoki-cho, Chuo-ku, Kobe 650-0017, Japan (manakamu@med.kobe-u.ac.jp).

Financial Disclosure: None reported.

Funding/Support: This study was partly supported by grants-in-aid 1939044 (Drs Nakamura, Kanamori, and Negi), 20592043 (Drs Nakamura, Kanamori, and Negi), and 19791267 (Dr Kanamori) from the Ministry of Education, Culture, Sports, Science, and Technology of Japan.


Characterization of Retinal Nerve Fiber Layer in Nonglaucomatous Eyes With Tilted Discs

Clinical assessment of the optic disc and nerve fiber layer (NFL) is an important method to diagnose and monitor the progress of glaucomatous optic neuropathy but is often difficult in eyes with tilted discs. Clinically, there are 2 orientations of tilting of the optic disc: temporal and inferior (Figure 1). Optical coherence tomography (OCT) demonstrates an acceptable diagnostic ability for glaucoma by comparing an individual patient’s NFL thickness profile with those in a normative database. The purpose of this study is to characterize the NFL of nonglaucomatous eyes with tilted discs using OCT.

Methods. This study was approved by the institutional review board of the University of California, Los Angeles. Our entire optic disc photograph database was screened for temporally or inferiorly tilted discs. Eyes with severely temporally tilted discs with a maximal-to-minimal disc diameter ratio higher than 1.4 and eyes with severely inferiorly tilted discs with apparent rotation of the long axis of the disc by more than 75° from the vertical meridian were selected. Patients with a diagnosis of

![Figure 1](https://example.com/figure1.png)
NFL thickness of all 256 points along the circular scan plotted, no obvious peak of NFL thickness was noted in the superior half, but a peak was noted in the inferior half of the inferiorly tilted disc group (Figure 2).

The significance of all results remained unchanged on further analysis with repeated-measures linear regression models with a compound symmetry covariance structure to account for the inclusion of fellow eyes.

**Comment.** Eyes with tilted discs have a different distribution of NFL thicknesses compared with normal eyes, with the peak of the superior half of the temporally tilted disc shifted temporally and the superior peak of the inferiorly tilted disc blunted. These characteristics should be considered when applying OCT to the interpretation of NFL measurements in eyes with tilted discs.

**Figure 2.** Distribution of peripapillary nerve fiber layer (NFL) thicknesses of temporally tilted discs, inferiorly tilted discs, and normal discs presented in a linear fashion. Error bars indicate standard error of the mean.

**Intraretinal Neovascularization in Diabetic Retinopathy**

The hallmark of proliferative diabetic retinopathy is neovascularization occurring at the vitreoretinal interface and in the vitreous, although intraretinal neovascularization (IRNV) is also reported to be a common finding if repeated fluorescein angiography is performed. However, the appearance of the IRNV in routine histological sections has been reported only rarely. Herein, we describe the histological features of IRNV in both eyes of a man with chronic diabetes mellitus.

**Report of a Case.** A 53-year-old man with chronic diabetes mellitus, hypertension, chronic kidney disease,