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Original Research Article

To Analyse Macular Thickness by Age and Gender in Age Group 18-30 Years

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Abstract

Background & Method: The aim of this study is to analyse macular thickness by age and gender in age group 18-30 years. Patients who presented to our department with various complaints was examined thoroughly and those found relevant are to be included in our study. After routine registration of the selected cases the examination was done keeping following points in to the consideration.

Result: In table male and female macular thickness has been depicted in age group 18-30 years . The male macular thickness is 244.32 (±19.22) compared to the female macular thickness of 233.64 (115.20) which is supported by the p value of 0.03 and t test of 2.17.

Conclusion: These demographic variation may be important parameters when comparing macular thickness measurements and diagnosing ocular disease. With increasing use of SD-OCT in clinical practice, it is critical to measure macular thickness in healthy eye as well as compare these values with the current commercially available OCT system.

Keywords: macular, thickness & gender.

Introduction

Macula lutea is the central part of the retina. It allows high-resolution central visual acuity. Different conditions, like diabetic retinopathy, age-related macular degeneration (AMD) or retinal vein occlusion can affect the macular structure, which may result in severe loss of visual acuity [1]. Traditionally, examinations of the macula are performed by ophthalmoscopy or slit-lamp examination with a contact-lens. From the 1970s fluorescein angiography (FA) on silver film, has been a valuable aid for clinical evaluation of the retina [2]. The rapidly evolving technology of digital imaging from the mid1980s, has added several new diagnostic modalities for retinal disease [3]. It has permitted computer-assisted analysis of both FA and indocyanin green angiographies, as well scanning laser ophthalmoscope imaging of the ocular fundus. One of the most useful techniques developed is optical coherence tomography (OCT), [1] which was introduced to the market in 1996.

OCT provides in vivo cross-sectional information of macular structure with micrometer resolution, without requiring

physical contact with the patient. The 'non-contact' feature makes the technique very useful when examining children [4].

In 1995, the first in vivo images from the human eye was reported36 and thereafter, OCT has been used to demonstrate morphological changes in different macular diseases [2,3,4,5] and has contributed to the understanding of the pathogenesis of many retinal diseases i.e. the formation of macular holes [5].

Material & Method

This study was carried out in 200 healthy subjects of age group from 18-30 years, attending the outdoor patient upgraded Department of Ophthalmology, N.S.C.B. Medical College & Hospital, Jabalpur, during academic session 2011-2014.

Inclusion Criteria:

- The patient of age group between 18-30 years was included.
- Healthy posterior segment.
- Best corrected vision of 6/6 or myopia of <5D.

Exclusion Criteria:

- Patient of age group <18 years or >30 years.
- Previous history of ocular surgery.
- Myopia of >5D.
- Posterior segment disorder.

Patients who presented to our department with various complaints was examined thoroughly and those found relevant are to be included in our study. After routine registration of the selected cases the examination was done keeping following points in to the consideration.

Results

Table No.: 01

Age range	Sex	Mean ± SD	t- test	P
18 – 30 Yrs	Male	244.32 ± 19.22	2.17	0.03
18 – 30 Yrs	Female	233.64 ± 15.20	-	-

In table male and female macular thickness has been depicted in age group 18-30 years . The male macular thickness is 244.32 (±19.22) compared to the female macular thickness of 233.64 (115.20) which is supported by the p value of 0.03 and t test of 2.17

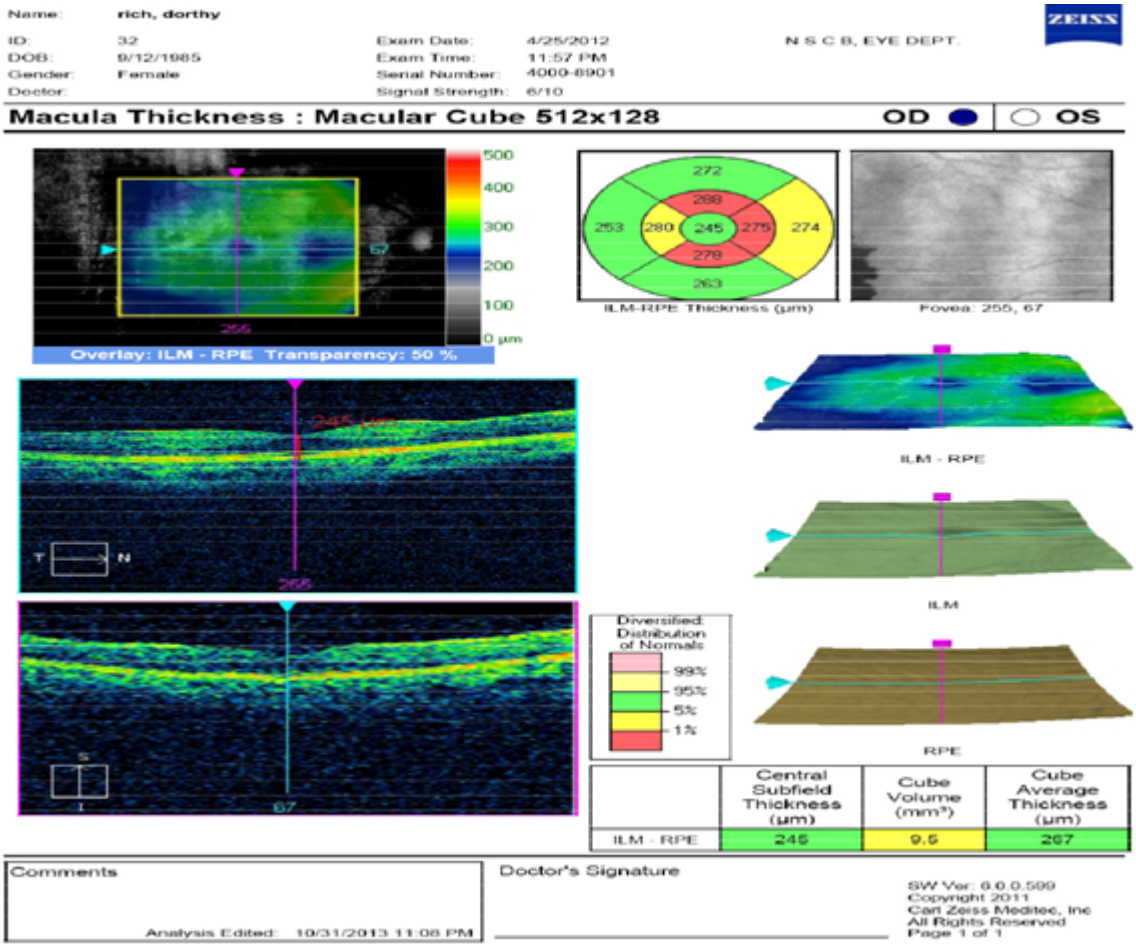

Figure 1:

This is the sample OCT of female lying in age group 18-30 years taken in the upgraded department of ophthalmology N.S.C.B medical college and hospital Jabalpur.

Discussion

This data is presented as mean ± standard deviation. Multi-variant analysis with age and gender as independent variables was also perform to determine the variation in macular thinness by gender when controlled for age and variation is macular thickness by age when gender as constant [6].

A 95% confidence interval and a 5% level of significant were adopted, therefore, result with the p value less or equal to .05 were considered significant.

In the present study the Cirrus-Carl-Zeiss SD-OCT machine was used For given study the data was arranged as male and female with age constant .then 25 eyes of male and 25 eyes of female was taken and this was further divided into range of macular thickness within normal range and variation from normal which was shown by color change in ETDRS map [7&8].

In table 1, age group 18-30 years was constant. 80%male and 92% female had macular thickness within normal range. The macular thickness was more in male than female in age group 18-30 years (male = 244.32±19 and female = 233.64±15.20, 't' test =2.17 and p value=.03) [9]

Conclusion

These demographic variation may be important parameters when comparing macular thickness measurements and diagnosing ocular disease. With increasing use of SD- OCT in clinical practice, it is critical to measure macular thickness in

healthy eye as well as compare these values with the current commercially available OCT system.

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