IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A Hospital-Based Study Of Alcohol Consumption And Risk Of Age-Related Macular Degeneration

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Abstract: this study examines the relationship between alcohol consumption and the risk of developing age-related macular degeneration (ARMD) based on hospital-based data. this is prospective study include all patients of age related macular degeneration above 50 years of age presenting in the department of ophthalmology at dr.rpgmc tanda. total 86 patients were examined. there were 29 (33.72%) patients who consumed alcohol while 41 (47.67%) patients were not consuming alcohol. statistical analysis chi-squre test was applied .finding indicated that excessive alcohol consumption significantly increases the risk of age related macular degeneration.

Index Terms - Alcohol Consumption ,Age Related Macular Degeneration

I. INTRODUCTION

Age-related macular degeneration (ARMD) is the most common cause of blindness prevalent in developed countries, particularly in people older than 60 years. Macular degenerative changes involve the central part of the retina that is the fovea. The central vision is affected, resulting in difficulty in reading, driving, etc. It accounts for 8.7% of all types of blindness worldwide.[1] According to current research, Age-Related Macular Degeneration (ARMD) affects nearly 200 million people globally, with the number expected to rise to 288 million by 2040 due to an aging population, making it the leading cause of irreversible central vision loss in developed countries; the prevalence is highest in Europe, followed by Asia and Africa, with Caucasians experiencing a higher rate than other ethnicities [2,3].Age-Related Macular Degeneration (ARMD) is a leading cause of vision loss among older adults.Lifestyle factors, such as alcohol consumption, are hypothesized to influence ARMD risk. This study seeks to explore these associations and contribute to better healthcare practices.

2. Methodology

Objectives

To examine the relationship between the quantity and frequency of alcohol consumption and risk of age related macular degeneration .

3Methods

Place of Study

Department of Ophthalmology,Dr.RPGMC,Tanda.

Study Population

All patients of age related macular degeneration above 50 years of age presenting in the Department of Ophthalmology at Dr.RPGMC Tanda.

Study Design

Prospective study.

Study period

One year.

Inclusion criteria

- All thepatients of age related macular degeneration of age above 50years presenting in Department of Ophthalmology, Dr.RPGMC Tanda.

Exclusion criteria

- Patients with predominantly other types of retinopathies.
- Patients who refuse to give consent.
- Patients with dense corneal and lenticular opacities.

Study Procedure

All the patients of age-related macular degeneration attending the Out Patient Department of Ophthalmology at Dr.RPGMC Kangra at Tanda whether symptomatic(i.e. complaining of diminished vision, scotoma,micropsia ormacropsia) or asymptomatic(i.e. with ophthalmoscopic features suggestive of ARMD) were included in the study.

Patients particulars like name, age, sex and address was recorded.A detailed ocular history from all the patients was recorded.

Dietary history was taken from all the patients. Subjects consuming Non Vegetarian food three times a week or more were grouped as Non Vegetarians and those who consumed it less than this were classified as Vegetarians.

A personal history regarding Data Collection: Alcohol consumption habits, AMD diagnosis, and associated risk factors were taken from the patients. They were enquired about the number of packs/years he/she had been drinking alcohol. drinks/years were calculated by multiplying the number of drinks with years of consuming alcohol .the alcohol intake categorized as non drinker and drinker,in which the occupation of the patient and educational status was noted. History of chronic diseases including diabetes and hypertension were recorded.

Complete systemic examination of the patients was done i.e. pulse rate,blood pressure,respiratory rate and cardiovascular system examination.

Detailed local examination of both the eyes was done,which included the following:-

- Visual acuity using Snellen's chart.
- Retinoscopy using Self-illuminated retinoscope was done after full dilatation of pupil using Tropicamide 1% eye drops.
- Detailed examination of anterior segment with slit lamp was performed.
- Amsler grid chart was used to detect micropsia,macropsia and metamorphosia.Type-1 Amsler grid chart was used to evaluate 10^0 of visual field surrounding fixation.Type-1 chart comprised of 10 cm square containing 400 small squares each of size 5 mm which when viewed at one-third of meter subtends an angle of 1^0.
- Slit lamp biomicroscopy with 90D and Indirect ophthalmoscopy was done after full dilatation of pupil with Tropicamide 1% eye drops.
- Intraocular pressure was recorded with Schiotz tonometer.

Following criteria were used to define ARMD and Drusen size:

Small Drusen:

Drusen which were less than 63µm.

Medium:

Drusen which were of the size of 63µm to 125µm.

Large:

Drusen which were 125µm in size or more i.e. the width of a retinal vein as it crosses the optic nerve head.[61]

4. Results

The present study was aimed to study risk factors for age related macular degeneration. All patients of age related macular degeneration above 50 years of age presenting in the Department of Ophthalmology Dr. RPGMC Tanda during the period of one year were included in the study. Total 86 patients were examined. Age and gender distribution of subjects are shown in fig.1 and fig. 2

Table 1. Distribution of Age-group with Early, Intermediate and Exudative ARMD

Age group (Years)	Stages of ARMD			Total No. (%)
	Early No. (%)	Intermediate No. (%)	Exudative No. (%)	
50-60	18 (20.93%)	3 (3.49%)	2 (2.32%)	23 (26.74%)
61-70	27 (31.39%)	4 (4.65%)	6 (6.98%)	37 (43.02%)
71-80	8 (9.30%)	6 (6.98%)	6 (6.98%)	20 (23.26%)
81-90	2 (2.32%)	2 (2.32%)	2 (2.32%)	6 (6.98%)
Total	55	15	16	86

Alcohol consumption

There were 29 (33.72%) patients who consumed alcohol while 57 (66.28%) patients did not consume alcohol. (table 10; fig 11).

Out of 29 (33.72%) patients who consumed alcohol, 14 (16.28%) patients were in early ARMD followed by 10 (11.63%) patients in exudative ARMD, 5 (5.81%) patients in intermediate ARMD. Out of 57 (66.28%) who did not consume alcohol, 41 (47.67%) patients were in early ARMD followed by 10 (11.63%) patients in intermediate ARMD and 6 (6.98%) patients in exudative ARMD.

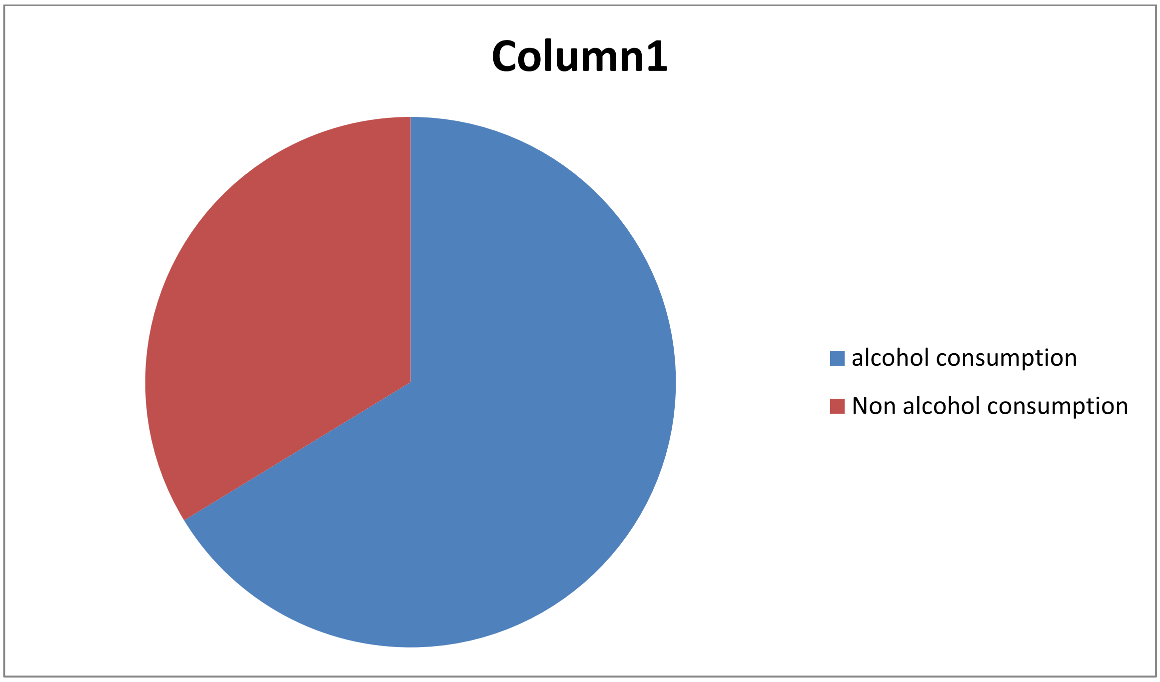

Fig 1.1 Distribution of Alcohol consumption with ARMD

Table 2. Distribution of Alcohol consumption with Early, Intermediate and Exudative ARMD

Alcohol use N=86	Stages of ARMD			Total No. (%)
	Early No. (%)	Intermediate No. (%)	Exudative No. (%)	
Consumption of alcohol	14 (16.28%)	5 (5.81%)	10 (11.63%)	29 (33.72%)
Non-consumption of alcohol	41 (47.67%)	10 (11.63%)	6 (6.98%)	57 (66.28%)

Thus, the age distribution among ARMD patients shows that the number of patients with ARMD increase with age and the incidence of intermediate/exudative form of ARMD in alcohol drinking than non drinking patient. It was found statistically significant (P=0.0001) indicating a statistically significant association between alcohol consumption and AMD

5. Discussion

The aim of the present study was to ascertain risk factors for age related macular degeneration. All patients of ARMD above 50 years of age presenting in the Department of Ophthalmology Dr. RPGMC Tanda for one year were included in the study. A total of 86 patients with age ranging from 50 to 90 years were included. Males were 47.67% and 52.33% were females. Most of the patients were in early ARMD (63.95%), followed by exudative (18.60%) and intermediate ARMD (17.44%)The study highlights the potential role of alcohol in ARMD progression [6,7]. studies have reported a higher prevalence of armd among heavy drinkers .for instance ,a study by christen et al.2005[1,5] found that excessive alcohol intake increase the risk of both early and late ARMD.

6. Conclusion

This research underscores the importance of lifestyle choices in ARMD risk. Reducing alcoholconsumption may serve as a preventive measure with evidence suggesting both risk and potential protective effect depending on the type and amount of alcohol consumed Further studies are recommended to validate these findings and particularly well designed longitudinal studies is needed.

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