International Journal of Medical Science in Clinical Research and Review
Online ISSN: 2581-8945
Available Online at http://www.ijmscrr.in Volume 05|Issue 05 (September-October)|2022|Page: 760-763

Original Research Paper

PREVALENCE AND RISK FACTORS OF ARMD AT TERTIARY CARE HOSPITAL SMIMER, SURAT

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Article Received: 16-08-2022 **Revised:** 06-09-2022 **Accepted:** 26-09-2022

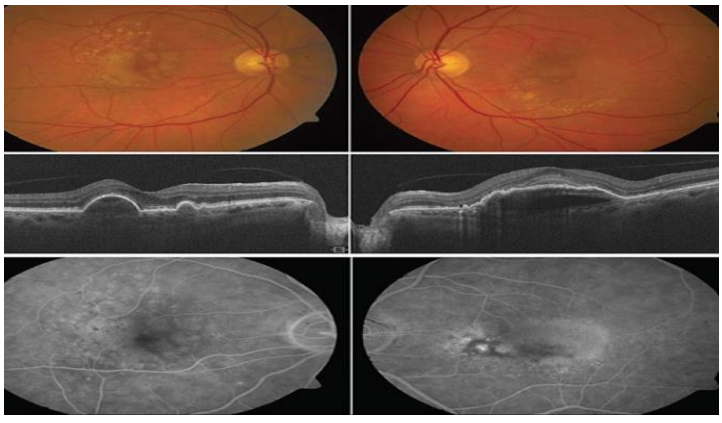
INTRODUCTION

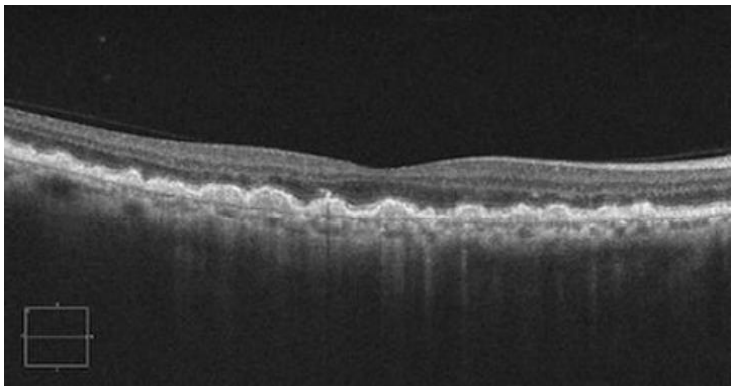
Age Related Macular Degeneration is senile macular degeneration due to pigmentary and atrophic changes in macular region causing impairment of central vision with increasing age. It is a leading cause of irreversible vision loss among people aged 50 years or older. It ranks as 3rd cause of blindness after Cataract and Glaucoma [(1)] which has global prevalence of 8.7 %[(2)]. Prevalence of Age-Related Macular Degeneration in India is in range of 1.8% to 4.7% [(3)] . Given the projected rapid population growth and ageing of the population, Age Related Macular Degeneration is likely to emerge as a major public health threat in the near future. [(2)] It has been estimated that by 2025, the geriatric population would rise to more than 1.2 billion, of which ~ 840 million would be living in the developing countries.[(4)] It has therefore been included in the action plan of the World Health Organization, to address avoidable blindness in VISION 2020 program[(2).] ARMD is a multi-factorial disease and the full aetiopathogenesis of ARMD has not yet been unveiled. Studies from western population suggest that lifestyle, nutritional, and genetic factors are involved in the pathogenesis of ARMD. It is a chronic, degenerative disease affecting primarily the choriocapillaris, Bruch's membrane (BM), Retinal pigment epithelium (RPE) and photoreceptors. Degeneration seems to be distinct conditions [(3)] .Daily smoking is a strong risk factor for the presence of late ARMD. Other risk factors are alcohol, tobacco chewing, hormonal therapy, cataract surgery etc. Identification of risk factor and their relation with ARMD should be done to decrease the number of new cases by modifying their life style and there by dependency. Increasing age and family history of disease are consistently established as associated risk factors for late AMD, neither of which can be modified. Life style modification can reduce the incidence of AMD. The aim of this publication is to estimate the prevalence of ARMD and identify the risk factors associated with ARMD.

AIMS AND OBJECTIVES

To estimate the proportion of age-related macular degeneration in patients aged above 50 years attending eye OPD in tertiary health centre. To study the associated risk factors in case of age-related macular degeneration.

Drusenoid PED -findings in FFA and OCT





MATERIALS AND METHODS

The present study was a hospital based cross-sectional observational study carried out at a tertiary care centre to estimate the prevalence of Age Related Macular Degeneration by screening patients aged above 50 years and to identify associated risk factors

STUDY SETTING- Study was done at ophthalmology OPD, Tertiary Care Hospital Prior permission from ethical committee has been taken to conduct the study. All the patients falling under inclusion criteria enrolled in the study their proforma was filled up and following criterias were examined their detailed history, Visual assesment , Anterior segment examination , Posterior segment examination , OCT was done. Informed consent was taken from all patients taken into study.

SAMPLE SIZE- all the patients falling under inclusion criteria, attending the eye opd ,who gave consent for the study were considered as sample size.

INCLUSION CRITERIA-

All Patients aged more than 50 year All Patient having age related macular degeneration.

EXCLUSION CRITERIA-

Patients with systemic disease which affect macula like diabetes mellitus, hypertension Patients with any other maculopathy.(Familial dominant drusen, drug induced maculopathy, Stargardt disease) Patients not giving consent for the study

STATISTICS

The collected data were analysed with IBM.SPSS statistics software 23.0 Version and Open epi was used. To describe about the data descriptive statistics frequency analysis, percentage analysis was used for categorical variables like substance use and the mean & S.D were used for continuous variables. To find the significance in categorical data Fischer, yates t test was used. In the above statistical tools, the probability value<0 .05 is considered as significant level.

OBSERVATION AND RESULTS

Among 1968 patients that were screened during the study period, 44 patients were found to have changes of ARMD in either or both the eyes. Henceforth, in 97.76% patients ARMD was absent and in about 2.2%(Prevalence) patients ARMD was present.

Sample distribution	No. of patients	Percentage
ARMD Absent	1924	97.76%
ARMD Present	44	2.2%

Table 1- ARMD Distribution

Gender	Number of patients	Percentage
Male	31	70.5%
Female	13	29.5%
Total	44	100%

Table 2- Gender wise distribution of ARMD

In Table 2 , Total 44 patients were examined for ARMD ,out of which 31 (70.5%) patients were male and 13 (29.5%) patients were female.

ARMD	Alcohol	Smoking	Tobacco chewers
Bilateral ARMD	26 (59.09%)	38(86.36%)	37(84.09%)
Unilateral ARMD	-	02(4.54%)	02(4.54%)
No ARMD	18 (40.90%)	04(9.09%)	05(11.36%)
Total	44 (100%)	44(100%)	44(100%)

Table 3 -Association of Alcohol, Smoking and Tobacco chewers with ARMD.

In table 3 , Analyzing the risk factors , Total 44 patients are alcoholic ,26 patients (59.09%) out of 44 had Bilateral ARMD and 18 patients (40.90%) out of 44 had No ARMD .(p value0.02). Out of 44 patients who were regularly smoking 38 patient (86.36%) had Bilateral ARMD and 02 (4.54%) had Unilateral ARMD. Whereas 04(9.09%) had no ARMD. (p value 0.01). 44 patients chewing tobacco on regular basis were examined, out of which 37 patients (84.09%) had Bilateral ARMD and 02 patients (4.54%) had unilateral ARMD and 05 patients (11.36%) had No ARMD (p value 0.04). Therefore analyzing risk factors showed statistical significant association of risk factors with ARMD.

DISCUSSION

During the study period, total 1968 patients of 50 years and above who attended the OPD ,44 patients were found to have ARMD and its proportion is 2.2% where as Prevalence of Age-Related Macular Degeneration in India is in range of 1.8% to 4.7% [3] .In this study out of 44 patients , 13(29.5%) were female and 31(70.5%) were male showing that prevalence is more in males than in females , the reason to it might be that ,major females in Gujarat belong to non working class and illiterate compared to male which leads to unawareness of symptoms. Few studies held in Sri Lanka and Japan(10,11) showed more prevalence in males comparable to this study. In Beaver Dam Eye study(12) and in Blue mountain eye study(8).SN - RAM study , prevalence of ARMD in females was more than males. ARMD was bilateral in 91% patients and unilateral in 9% (7) patients. Bilaterally of any ARMD was strongly age related clinically, also seen in the study of prevalence of ARMD- The visual impairment project. (4) Analyzing the risk factors ,38(86%) out of 44 patients are smokers and showed significant association (p value 0.01) with ARMD which is supported by Rotterdam study and is a consistent finding in other studies as also. (8,9)In current study, 37(84.09%) out of 44 patients are tobacco chewers and has shown significant association (p value 0.04) with ARMD. Not many studies have tobacco chewing (smokeless tobacco) as risk factor. One of the Indian study, The SN-RAM study(7) , showed association of smokeless tobacco and ARMD. Its speculated that tobacco chewing brings about pathological changes like vascular endothelial damage/oxidative -toxic damage favoring ARMD development. 26 (59.09%) out of 44 patients had habit of alcohol and shows significant association(p value 0.02) with ARMD. Studies assessing the association of ARMD risk with alcohol intake have inconsistent findings. A relationship between beer consumption and risk for CNVM has been identified in the Beaver Dam eye study. (12) This was observed in subjects from the Latino community with beer consumption and high alcohol intake being associated with a greater risk of developing the disease.(13) Conversely, no association between any type of alcohol and ARMD risk has been shown in other studies.(14)

CONCLUSION

ARMD is becoming an important cause of vision loss in India due to ageing population because of better longevity. . Estimated Prevalence of ARMD as per our study is 2.2%. Analyzing the risk factors, ARMD was 59.09% of alcoholic patients, 86.36% of smokers and 84.09% of tobacco chewers. Therefore analysing risk factors showed positive association of risk factors with ARMD.

Screening and follow up for early diagnosis and progression helps to initiate treatment at proper time in advanced forms of ARMD, to improve the quality of life of patients. Interprofessional communication between physician and ophthalmologist can help for

early disease detection and thereby visual disability. Lifestyle modifications like avoiding smoking, alcohol consumption, tobacco chewing, help to slow down the disease progression.

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