

A clinical profile and factors associated with age related macular degeneration

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Abstract

Introduction: Age-related macular degeneration (AMD) is the leading cause of blindness among people aged 55 years and older in the U.S and other Western countries. **Aims and Objectives:** To study Clinical profile and factors associated with Age related macular degeneration. **Material and Methods:** After approval from institutional Ethical committee a cross sectional study was carried out in patients with age related macular degeneration at Ophthalmology department of tertiary health care center during the year 2014. For the diagnosis of age related macular degeneration all the persons with age >45 with the signs and symptoms of AMD were Ophthalmoscopically examined and fundus examination was done by Ophthalmologist and confirmed by OCT or fluoresce in angiography or both. So, during the study period total 30 patients were diagnosed as AMD were included into study. All the data is presented in the tabular form and arranged in percentages. **Result:** The majority of the patients were in the age group of 75-85 and were 40.00%. The most common clinical features observed were Difficulty in recognizing the Faces i.e. in 73.33% followed by C/o Distorted images in center in 60%; Need brighter light than normal for reading in 56.66%; C/o Blurry Text in 53.33%; C/o Blind spot in the middle of visual field in 43.33%; Impaired depth perception in 33.33%; Difficulty in Reading and Driving in 30% of the patients respectively. The most common risk factor associated with Age related macular degeneration patients were H/o Hypertension in 70% followed by H/o Smoking in 63.33%; H/o Alcoholism in 56.66%; Female Sex in 53.33%; C/o Cataract in 43.33%; H/o Hyperopia in 33.33%; Atherosclerosis in 30%; Obesity (BMI >30) in 30 and Diabetes in 23.33 % of the patients respectively. **Conclusion:** It can be concluded from our study that the most common clinical features observed were Difficulty in recognizing the Faces, Distorted images in center, Need brighter light than normal for reading and the most common risk factors associated were H/o Hypertension followed by H/o Smoking, H/o Alcoholism, Female Sex, Cataract and H/o Hyperopia; Atherosclerosis; K/c/o Obesity (BMI >30) and K/c/o Diabetes etc.

Keywords: Age related macular degeneration (AMD), Cataract, Hyperopia, Atherosclerosis, Obesity.

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INTRODUCTION

Age-related macular degeneration (AMD) is the leading cause of blindness among people aged 55 years and older in the U.S and other Western countries^{1,2,3}. Late stage AMD includes two morphological sub-types: neovascular AMD and geographic atrophy^{4,5}. Population studies indicate that neovascular AMD accounts for two thirds of late AMD cases, and 90% of blindness from AMD⁶. Left untreated, neovascular AMD results in severe visual impairment with an average loss of around 4 lines of visual acuity within 2 years of disease onset⁷. Patients

with geographic atrophy also develop visual loss although this tends to be more gradual. With the introduction of new and effective treatments for neovascular AMD, there is a strong rationale for early identification of persons at highest risk of progression to the late stages as timely treatment given at the onset of neovascular AMD will lead to better visual outcomes^{8,9,10,11}.

MATERIAL AND METHODS

After approval from institutional Ethical committee a cross sectional study was carried out in patients with age related macular degeneration at Ophthalmology department of tertiary health care center during the year 2014. For the diagnosis of age related macular degeneration all the persons with age >45 with the signs and symptoms of AMD were Ophthalmoscopically examined and fundus examination was done by Ophthalmologist and confirmed by OCT or fluoresce in angiography or both. So, during the study period there were total 30 patients diagnosed as AMD were included into study. All the data is presented in the tabular form and arranged in percentages.

RESULTS

Table 1: Distribution of the Patients as per Age

| Age | No. | Percentage (%) |
|--------------|-----------|----------------|
| 45-55 | 2 | 6.67 |
| 55-65 | 3 | 10.00 |
| 65-75 | 5 | 16.67 |
| 75-85 | 12 | 40.00 |
| >85 | 8 | 26.67 |
| Total | 30 | 100.00 |

The majority of the patients were in the age group of 75-85 were 40.00% followed by >85- 26.67%; 65-75 were 16.67% and in 45-55 were 6.67% in 55-65 were 10.00%.

Table 2: Sex wise distribution of the Patients

| Sex | No. | Percentage (%) |
|--------------|-----------|----------------|
| Female | 16 | 53.33 |
| Male | 14 | 46.67 |
| Total | 30 | 100 |

The majority of the patients were females i.e. 53.33% followed by males i.e. 46.67%

Table 3: Distribution of the Patients as per the Clinical features

| Complains | No. | Percentage (%) |
|---|-----|----------------|
| Difficulty in recognizing the Faces | 22 | 73.33 |
| C/o Distorted images in center | 18 | 60 |
| Need brighter light than normal for reading | 17 | 56.66 |
| C/o Blurry Text | 16 | 53.33 |
| C/o Blind spot in in the middle of visual field | 13 | 43.33 |
| Impaired depth perception | 10 | 33.33 |
| Difficulty Reading and Driving | 9 | 30 |

(Total maybe >30 because more than one complains may be present in the patient). The most common clinical features observed were Difficulty in recognizing the Faces i.e. in 73.33% followed by C/o Distorted images in center in 60%; Need brighter light than normal for reading in 56.66%; C/o Blurry Text in 53.33%; C/o Blind spot in the middle of visual field in 43.33%; Impaired depth perception in 33.33%; Difficulty in Reading and Driving in 30% of the patients respectively.

Table 4: Distribution of the Patients as per the associated risk factors

| Risk factors | No. * | Percentage (%) |
|-------------------|-------|----------------|
| H/o Hypertension | 21 | 70 |
| H/o Smoking | 19 | 63.33 |
| H/o Alcoholism | 17 | 56.66 |
| Female Sex | 16 | 53.33 |
| Cataract | 13 | 43.33 |
| H/o Hyperopia | 10 | 33.33 |
| Atherosclerosis | 9 | 30 |
| Obesity (BMI >30) | 9 | 30 |
| Diabetes | 7 | 23.33 |

*Total maybe > 30 because more than one risk factor may be present in the patient

The most common risk factor associated with Age related macular degeneration patients were H/o Hypertension in 70% followed by H/o Smoking in 63.33%; H/o Alcoholism in 56.66%; Female Sex in 53.33%; K/c/o Cataract in 43.33%; H/o Hyperopia in 33.33%; Atherosclerosis in 30%; Obesity (BMI >30) in 30% and Diabetes in 23.33 % of the patients respectively.

DISCUSSION

Age-related macular degeneration-also called macular degeneration, AMD or ARMD-is deterioration of the macula, which is the small central area of the retina of the eye that controls visual acuity. The health of the macula determines our ability to read, recognize faces, drive, watch television, use a computer, and perform any other visual task that requires us to see fine detail. Macular degeneration is the leading cause of vision loss among older Americans, and due to the aging of the U.S. population, the number of people affected by AMD is expected to increase significantly in the years ahead. In 2010, approximately 2.07 million Americans had advanced age-related macular degeneration, and that number is expected to grow to 5.44 million in 2050. AMD is most common among the older white population, affecting more than 14 percent of white Americans age 80 and older. Among Americans age 50 and older, advanced macular degeneration affects 2.1 percent of this group overall, with whites being affected more frequently than blacks, non-white Hispanics and other ethnic groups (2.5 percent vs. 0.9 percent). As per Usha Chakravarthy *et al*¹² the risk factors are Increasing age, current cigarette smoking, previous cataract surgery, and a family history of AMD showed strong and consistent associations with late AMD. Risk factors with moderate and consistent associations were higher body mass index, history of cardiovascular disease, hypertension, and higher plasma fibrinogen. Risk factors with weaker and inconsistent associations were gender, ethnicity, diabetes, iris colour, history of cerebrovascular disease, and serum total and HDL cholesterol and triglyceride levels. Macular degeneration symptoms usually develop gradually and without pain. They may include: visual distortions, such as straight lines seeming bent, reduced central vision in one or both eyes, the need for brighter light when reading or doing close work, increased difficulty adapting to low light levels, such as when entering a dimly lit restaurant, increased blurriness of printed words, decreased intensity or brightness of colors, difficulty recognizing faces. Dry macular degeneration usually affects both eyes the wet type is more likely to cause a relatively sudden change in vision resulting in serious vision loss. In our study we found The majority of the patients were in the age group of 75-85 were 40.00% followed by >85- 26.67%; 65-75

were 16.67%; in 45-55 were 6.67% and in 55-65 were 10.00%. From this it is clear that as age increase the AMD prevalence also increases but in our study prevalence of > 85 yrs. was little less than 75-85 this could be because overall the population of > 85 may be less. The majority of the patients were females i.e. 53.33% followed by males i.e. 46.67% these findings are similar to Fridbert Jonasson *et al*¹³. The most common clinical features observed were Difficulty in recognizing the Faces i.e. in 73.33% followed by C/o Distorted images in center in 60%; Need brighter light than normal for reading in 56.66%; C/o Blurry Text in 53.33%; C/o Blind spot in the middle of visual field in 43.33; Impaired depth perception in 33.33%. The most common risk factor associated with Age related macular degeneration patients were H/o Hypertension in 70% followed by H/o Smoking in 63.33%; H/o Alcoholism in 56.66%; Female Sex in 53.33%; K/c/o Cataract in 43.33% ; H/o Hyperopia in 33.33%; Atherosclerosis in 30% ; Obesity (BMI >30) in 30 and Diabetes in 23.33 % of the patients respectively. This is in confirmation with findings of Usha Chakravarthy¹² who found Increasing age, current cigarette smoking, previous cataract surgery, and a family history of AMD showed strong and consistent associations with late AMD. Risk factors with moderate and consistent associations were higher body mass index, history of cardiovascular disease, hypertension, and higher plasma fibrinogen. Risk factors with weaker and inconsistent associations were gender, diabetes, iris colour, history of cerebrovascular disease. In their study Fridbert Jonasson¹³ found The prevalence of early AMD was 12.4% (95% confidence interval [CI], 11.0-13.9) for those aged 66 to 74 years and 36% (95% CI, 30.9-41.1) for those aged \geq 85 years. The prevalence of exudative AMD was 3.3% (95% CI, 2.8-3.8). The prevalence of pure geographic atrophy (GA) was 2.4% (95% CI, 2.0-2.8). The highest prevalence of late AMD was among those aged \geq 85 years: 11.4% (95% CI, 8.2-14.5) for exudative AMD and 7.6% (95% CI, 4.8-10.4) for pure GA.

CONCLUSION

It can be concluded from our study that The most common clinical features observed were Difficulty in recognizing the Faces, Distorted images in center, Need brighter light than normal for reading and the most

common risk factors associated were H/o Hypertension followed by H/o Smoking, H/o Alcoholism Female Sex, Cataract and H/o Hyperopia; Atherosclerosis; Obesity (BMI >30) and Diabetes etc.

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