

A STUDY ON OCULAR MANIFESTATIONS OF THYROID EYE DISEASE

CODE:2294192

CHIEF AUTHOR

Dr.AKHILA.RAVIPATI,
POSTGRADUATE ,
DEPARTMENT OF OPHTHALMOLOGY,
GREH,VISAKHAPATNAM.

CO-AUTHOR

Dr.T.VANISHREE,
ASSISTANT PROFESSOR,
DEPARTMENT OF OPHTHALMOLOGY,
GREH,VISAKHAPATNAM.



NO FINANCIAL INTEREST



INTRODUCTION

Thyroid eye disease is a relatively rare condition, with an incidence of 2.9 to 16.0 cases per 100,000 population per year. However, it is the most common orbital disorder in adults worldwide and the commonest cause of unilateral or bilateral axial proptosis (exophthalmos), acquired strabismus or lid retractions.

This autoimmune disease mainly affects young or middle aged women. However, an apparent bimodal peak for both men and women exists. It is common between the second and sixth decades.

Thyroid eye disease is the most important extrathyroidal manifestation of autoimmune thyroid disease. The five main clinical manifestations of TED are:

- Soft tissue involvement
- Lid retraction
- Proptosis
- Corneal involvement
- Optic neuropathy
- Restrictive myopathy

As there are sight threatening lesions in thyroid eye disease, this study was undertaken to identify them and give appropriate management.



AIMS AND OBJECTIVES

1. To assess the preponderance and frequency of occurrence of various ocular manifestations in TED.
2. To assess risk factors predisposing to TED.

INCLUSION CRITERIA:

Patients showing features of thyroid eye disease attending ophthalmology OPD at GREH,VSP were included in this study.

EXCLUSION CRITERIA:

All patients with coexisting ocular diseases and orbital disorders such as carotid-cavernous fistulas ,pseudotumor orbit,orbital cellulitis,orbital tumours were excluded from study.



METHODOLOGY:

This is a hospital based cross sectional study conducted at Government regional eye hospital/andhra medical college,visakhapatnam from october 2020 to october 2021 with a sample size of 50 patients.

Data was collected which included demographic details of patients, complaints,Diagnosis of TED was based on **criteria of Bartley and Gorman**.

Clinical activity of the disease was classified as per clinical activity score recommended by EUGOGO. A **CAS score** of <3 was considered as inactive disease and score ≥ 4 is considered as active disease .

VISA classification and **EUGOGO** classification are the two grading systems conceived to assess the activity and severity of GO and guide the therapeutic decision making.

INVESTIGATIONS DONE ARE:

1. Visual acuity,Extraocular movements, 2.Slit lamp examination, 3.Fundus examination (Indirect ophthalmoscopy with 20D), 4.schimers test, 5.Hertel exophthalmometry, 6.Thyroid profile.



RESULTS:

50 Patients with TED were included in the study.

TABLE 1:GENDER DISTRIBUTION

GENDER	NUMBER OF CASES	PERCENTAGE
FEMALES	31	62%
MALES	19	38%
TOTAL	50	100%



CHART 1: GENDER DISTRIBUTION

GENDER DISTRIBUTION

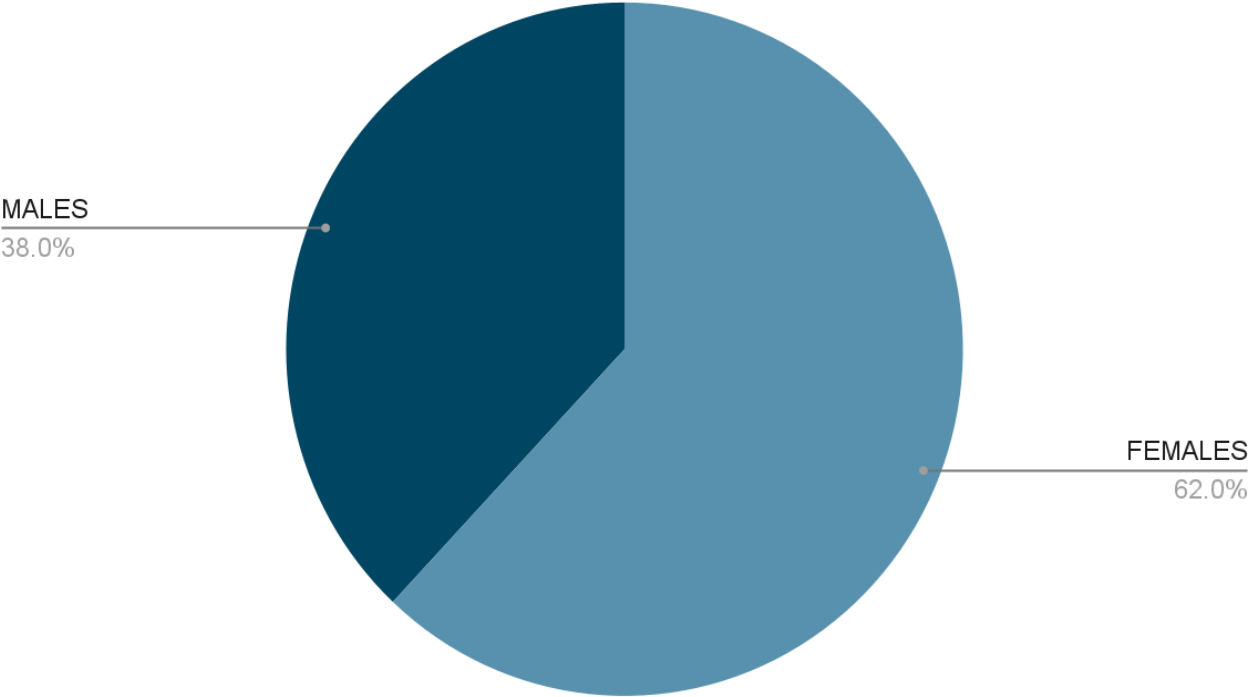


TABLE 2: AGE & GENDER DISTRIBUTION

AGE RANGE	NUMBER OF PATIENTS	PERCENTAGE
0-10 yrs	0	0
11-20 yrs	2	4%
21-30 yrs	8	16%
31-40 yrs	7	14%
41-50 yrs	17	34%
51-60 yrs	10	20%
>60 yrs	6	12%

Most of the cases are in the age group of 41 to 50 yrs and mean age of presentation is 41.52 ± 12.94 yrs. and showed female preponderance.



Points scored

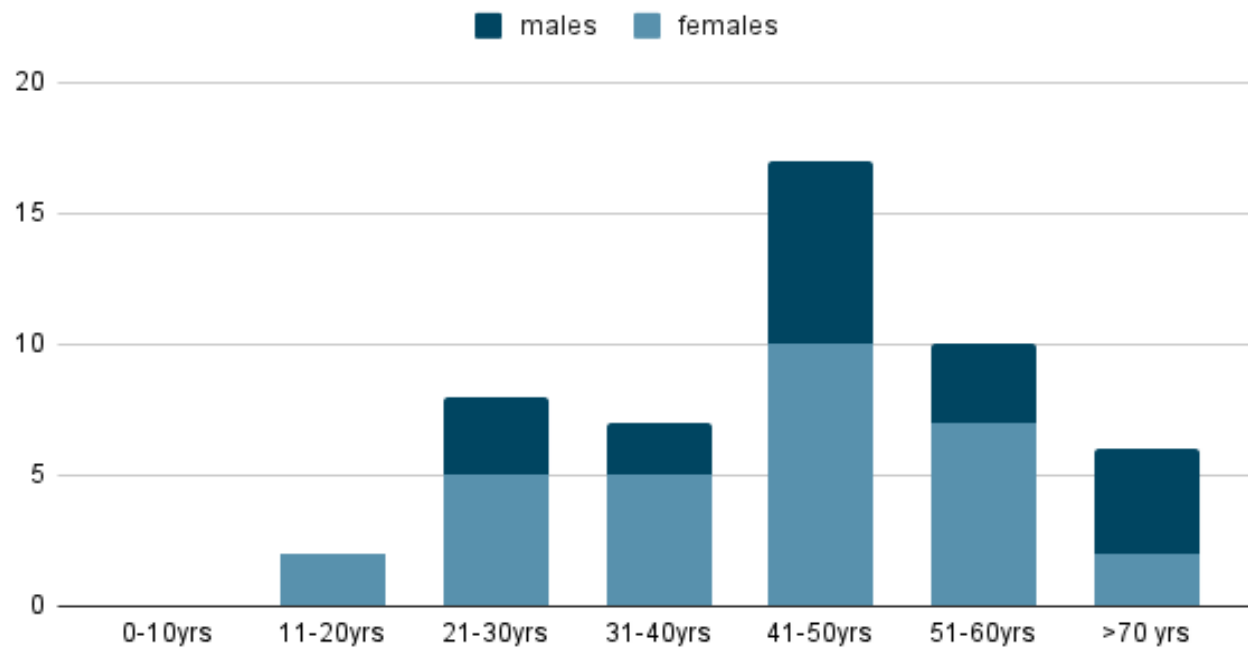


TABLE 3: OCULAR SYMPTOMATOLOGY

OCULAR COMPLAINT	NUMBER OF PATIENTS	PERCENTAGE
Grittiness/ fb sensation	18	36%
Redness and watering	10	20%
Abnormal tolerance to light	4	8%
Double vision	1	2%
Visual loss	4	8%



CHART 6: OCULAR SYMPTOMATOLOGY

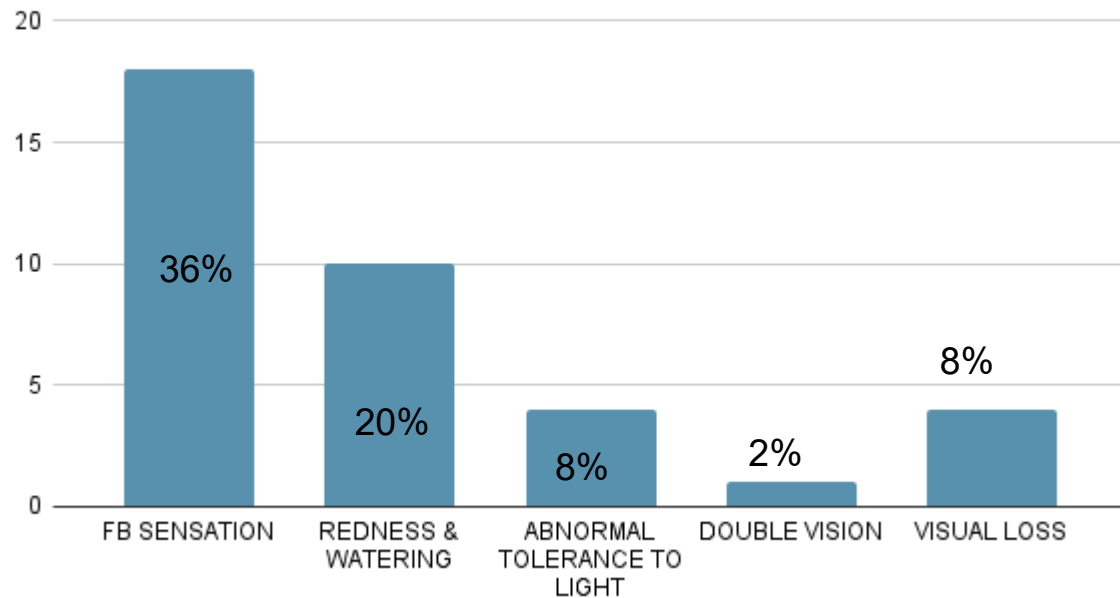


TABLE 4: OCULAR MANIFESTATIONS

OCULAR MANIFESTATIONS	NUMBER OF PATIENTS	PERCENTAGE
Eyelid retraction	33	66%
exophthalmos	44	88%
Soft tissue involvement	12	24%
Extraocular motility restriction	2	4%
Corneal involvement	2	4%
Optic nerve involvement	0	0%



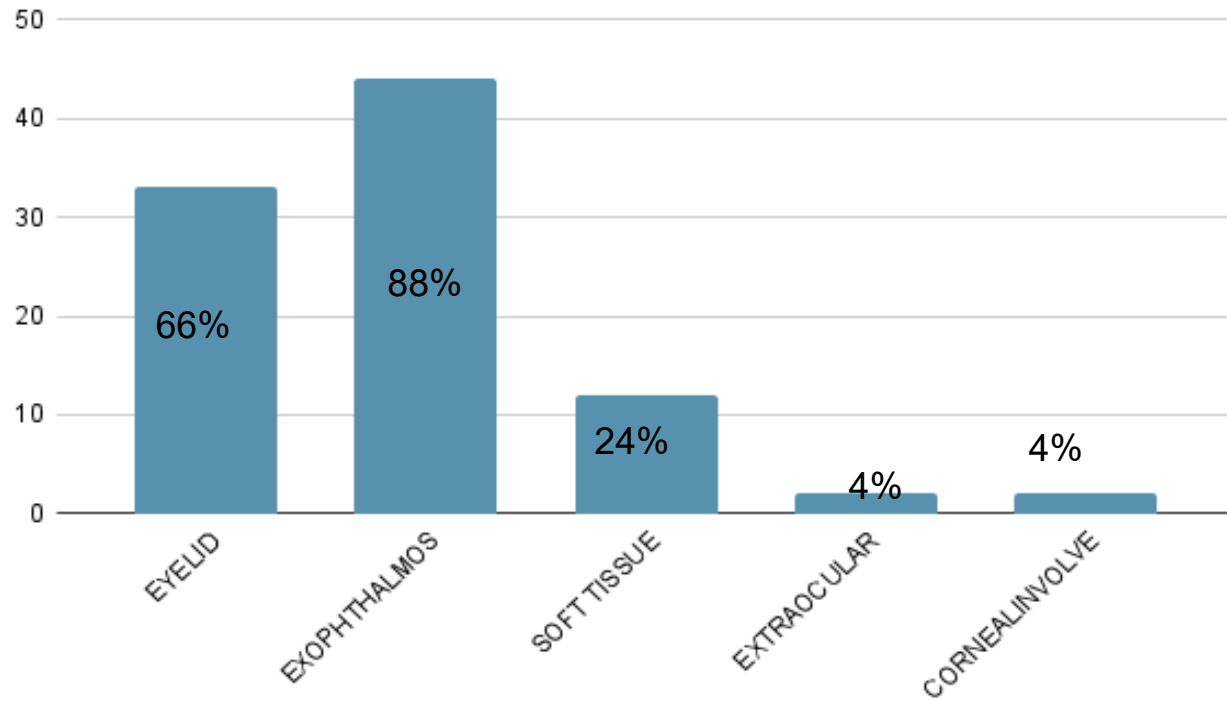


TABLE 4: OCULAR SIGNS

OCULAR SIGNS	NUMBER OF PATIENTS	PERCENTAGES
LID RETRACTION UPPER LID	33	66%
LOWER LID	12	24%
LID LAG(VON GRAFE'S SIGN)	13	26%
LID FULLNESS(ENROTH SIGN)	9	18%
INFREQUENCY OF BLINKING(STELLWAG'S SIGN)	8	16%
BOSTON SIGN	1	2%
CONJUNCTIVAL INJECTION(GOLDZEIZ HER'S SIGN)	10	20%
CONVERGENCE WEAKNESS(MOBIUS SIGN)	4	8%
EXTRAOCULAR RESTRICTION	2	4%



OCULAR SIGNS

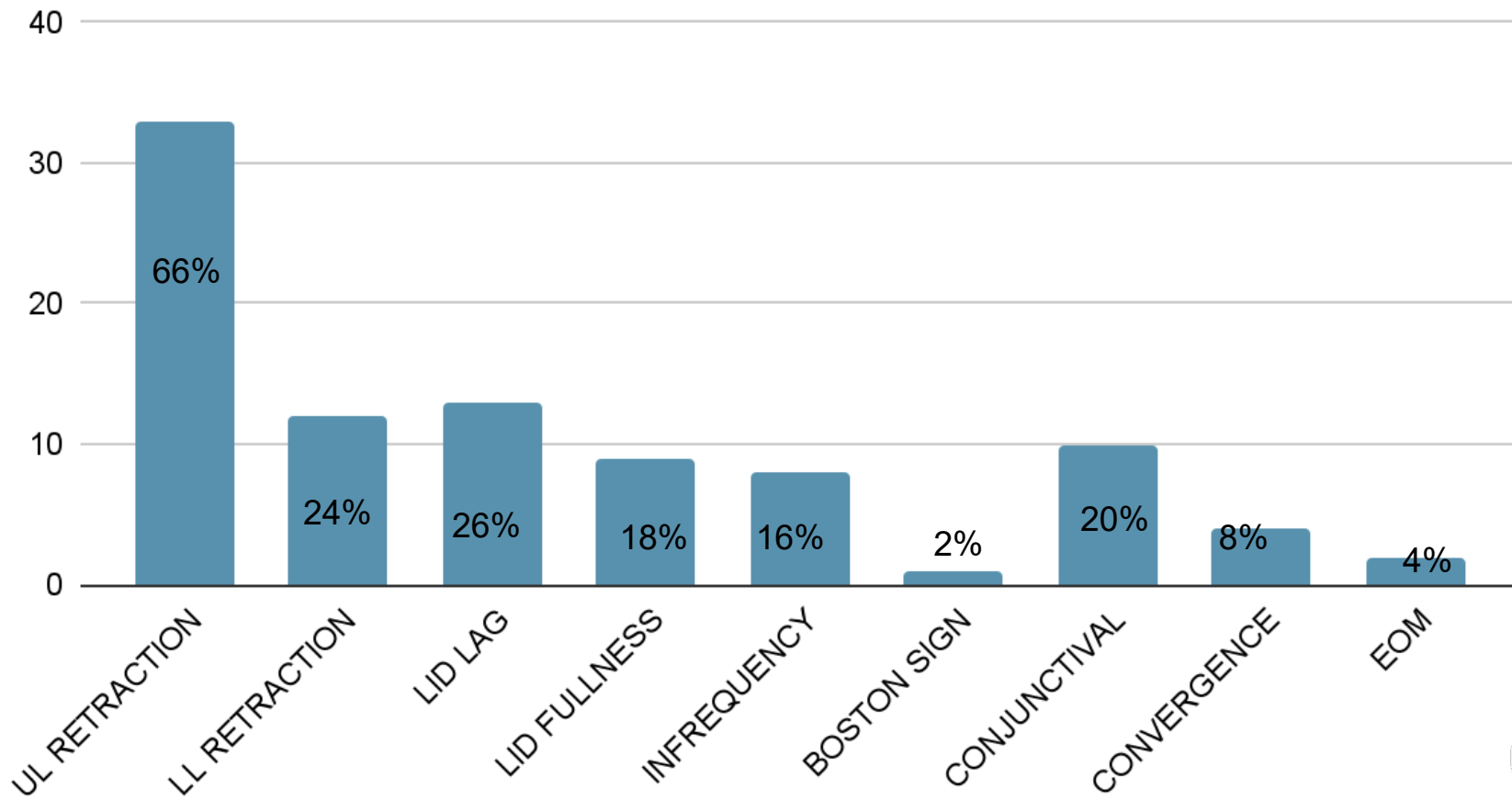


TABLE 4: ASSOCIATION WITH SMOKING

SMOKING STATUS	MALES	FEMALES	TOTAL
Current smokers	10	4	14
nonsmokers	9	27	36
total	19	31	50

Only 28% of patients included in the study were smokers. Among the current smokers, the majority (71.4%) were males. Among the nonsmokers, most of the patients were females (75%).



ASSOCIATION WITH SMOKING

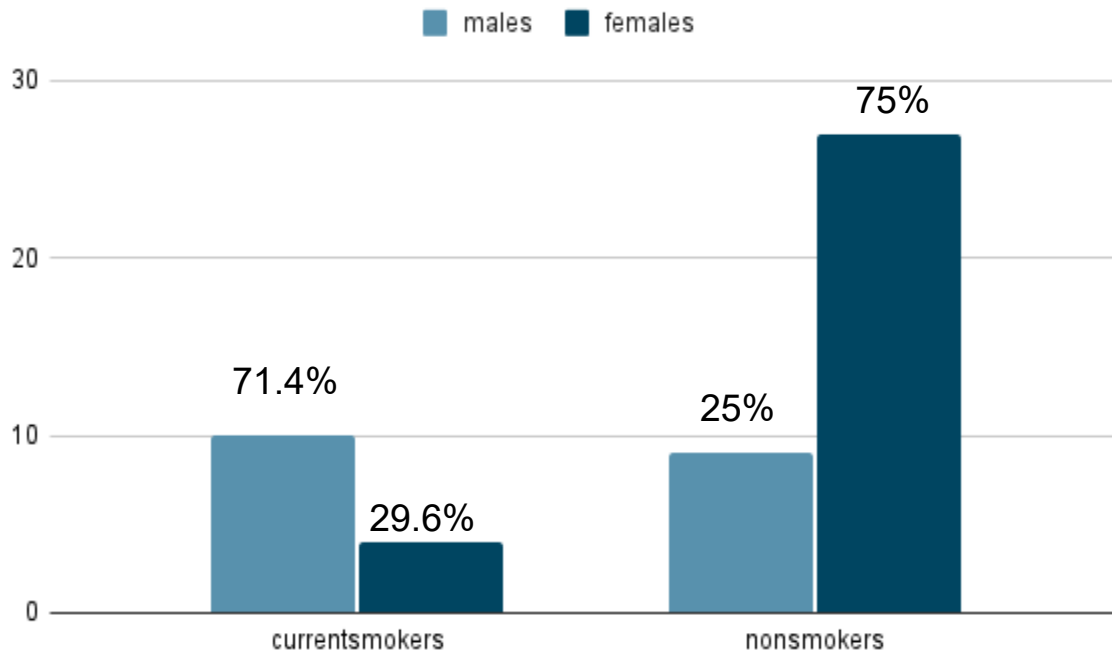




FIG-1: A 42 YR OLD MALE PATIENT WITH PROPTOSIS
AND LID RETRACTION



FIG 2. A 30 YR FEMALE PATIENT WITH LID RETRACTION



DISCUSSION

The patients showing features of thyroid disease with features of thyroid ophthalmopathy attending opd at greh,visakhapatnam were included in this study . 50 cases which fulfill the inclusion criteria were included.all the necessary data was collected which included demographic details of patients,clinical history,Vision,comprehensive ophthalmic examination,routine investigations .

In the present study female to male ratio is 1.6:1, there is female preponderance in TED. In amultiethnic study conducted by shueh lin lim et al,the female to male ratio was 1.5:1.however in the study conducted by Bartley et al included only the incident cases and not prevalent cases .

In the present study Median age of presentation is 42.51 yrs(age group of 41-50 yrs). Reddy et al reported a median age of onset at 33 yrs.

Though protrusion of the eye was the most common complaint,foriegn body sensation was the most common ocular symptom in this study.



In the current study, the most common clinical manifestation is exophthalmos in 88% of patients followed by upper eyelid retraction in 66% of patients. Upper lid retraction, exophthalmos and soft tissue involvement were the common manifestations of GO in studies by Reddy et al and khurana et al .



CONCLUSION:

There is female preponderance in TED as the systemic disease being an autoimmune disease. mean age at onset of disease 41-50 yrs, most common ocular symptom is fb sensation, most common ocular manifestation is exophthalmos followed by lid retraction.

Age ,gender , smoking are few risk factors for TED

Smoking is a significant risk factor for increased severity of disease.



REFERENCES

1. Perros P, Crombie AL, Matthews JN, Kendall-Taylor P. Age and gender influence the severity of thyroid-associated ophthalmopathy: a study of 101 patients attending a combined thyroid-eye clinic. *Clin Endocrinol (Oxf)* 1993;38: 367-72. [[PubMed](#)] [[Google Scholar](#)]
2. Weetman AP. Hyperthyroidism and Graves' Disease. In: Besser GM, Thorner MO. *Comprehensive clinical endocrinology*. 3rd ed. Edinburgh: Mosby, 2002.
3. Bartalena L, Marcocci C, Tanda ML, Manetti L, Dell'Unto E, Bartolomei MP, et al. Cigarette smoking and treatment outcomes in Graves ophthalmopathy. *Ann Intern Med* 1998;129: 632-5. [[PubMed](#)] [[Google Scholar](#)]
4. Kendler DL, Lippa J, Rootman J. The initial clinical characteristics of Graves' orbitopathy vary with age and sex. *Arch Ophthalmol*. 1993; 111(2): 197- 201.

[Crossref](#)[CAS](#)[PubMed](#)[Google Scholar](#)

5. Werner SC. Modification of the Classification of the Eye Changes of Graves' Disease. *Am J Ophthalmol*. 1977; 83(5): 725- 727.

[Crossref](#)[CAS](#)[PubMed](#)[Web of Science®](#)[Google Scholar](#)

