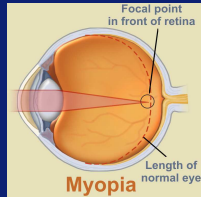


# MYST Case-Control Study of High Myopia: Introduction and Evaluation of Ocular Morbidity

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## Purpose

High myopia is a common cause of blindness due to a variety of complications. We investigated ocular morbidity in a high myopia case-control study in comparison to population-based studies.

## Subjects

### MYST case-control study

- **323 high myopia cases:** spherical equivalent (SE)  $\leq -6$  D
- **150 emmetropic controls:** SE  $\geq -1.5$  D &  $\leq +1.5$  D
- **Inclusion:** age  $\geq 25$  yrs
- **Exclusion:** syndromes
- **Recruitment:** public media, website, eye care providers

### Rotterdam Study (RS) I-III

- 3 population based cohort studies in elderly (45+, 55+)
- **188 high myopia cases:** SE  $\leq -6$  D
- **4651 emmetropic controls:** SE  $\geq -1.5$  D &  $\leq +1.5$  D

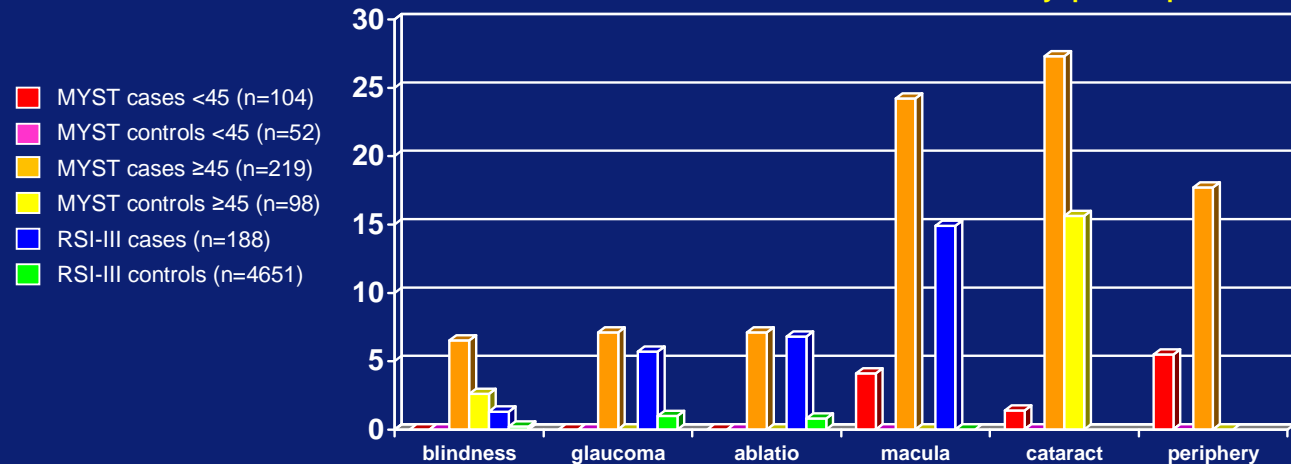
## Examination at research center



## Statistical analysis

- Stratification on age  $<45$  and  $\geq 45$  yrs
- Evaluation of differences with student's t-test, Chi-square, and Fischer's exact test

## Distribution of myopic complications



## Clinical characteristics

	MYST		RS I-III	
	cases	controls	cases	controls
n	323	150	188	4651
Age (yrs)	47.0	48.4	68.4	64.1
% $\geq 45$ yrs	67.8	65.0	100	100
Sex (% ♂)	36	42	44	43
SE (D)	-10.10*	-0.02	-9.50*	+0.33
Axial length (mm)	27.02*	23.44	-	-
IOP (mm Hg)	14.0	14.2	16.3	16.0
Ophthalmologist? (%)	51*	10	51*	34
Refractive surgery (%)	6.4*	2.0	-	-

## Conclusion

High myopia carries a significant risk of ocular complications and blindness, especially in individuals aged  $\geq 45$  yrs. Myopic macular changes are the most severe and irreversible consequences. The high morbidity of myopia demands the attention of health care providers and researchers.