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ORBITAL IMPLANTS AND THE POST ENUCLEATION SOCKET SYNDROME

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BACKGROUND

The Post-Enucleation-Socket-Syndrome is characterized by enophthalmos, deep upperlid sulcus, ptosis, and laxity of the lower lid. Primary orbital implants are thought to prevent this syndrome. However, only few data exist on the long-term course of orbital implants among patients of different ages. Is this treatment really necessary in any case?

QUESTION

How is the long-term course of orbital implants among patients of different ages?

METHODS

We have examined during two years 500 consecutive anophthalmic patients with respect to:

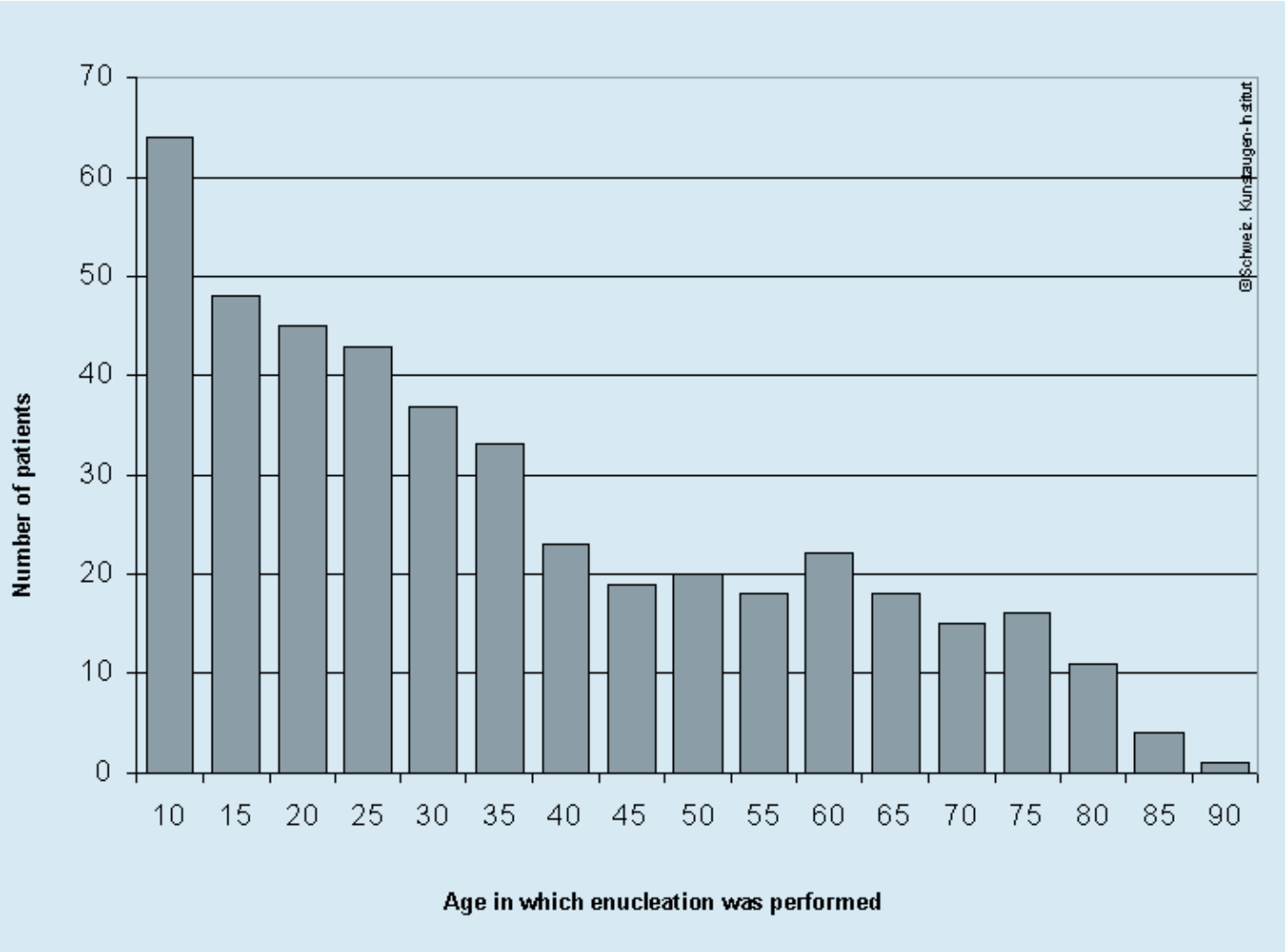
- age in which enucleation was performed
- presence of, or secondary removal of orbital implant
- enophthalmic difference between eye and prosthesis
- depression of supratarsal sulcus
- lid closure insufficiency
- conjunctival irritation

CONCLUSIONS

- Conjunctival irritation of an anophthalmic socket is closely related to lid closure insufficiency. The volume of orbital implant plus eye prosthesis should allow for complete lid closure.
- The average enopthalmic difference between eye and prosthesis is at least 2 mm (also in caces with orbital implants.)
- Differences of supratarsal sulcus depht are at least 3 mm (also in cases with orbital implants).
- Significant differences (enophthalmic and sulcus) between patients with and without primary orbital implant are only visible in patients who had enucleation at the age of about 60 years or more.
- The deformity most recognized after enucleation is supratarsal sulcus depression. Orbital implants only improve the cosmetic result in patients who had enucleation at the age of about 45 years or more.
- Thus, the long-term cosmetic effects of an orbital implant is highly dependent on the age in which enucleation is performed.

RESULTS

Distribution of patients



Causes of enucleation		
Trauma	330	66%
Disease (without tumor)	84	17%
Tumor	63	13%
Microphthalmy	12	2%
Total of enucleations	489	98%
Microphthalmies without enucleation	11	2%
Total	**500**	**100%**

Number of Orbital Implants		
No of patients without primary implant	399	80%
No of patients with primary implant	90	18%
No of patients whose primary implant was removed	11	2%
Total	**500**	**100%**

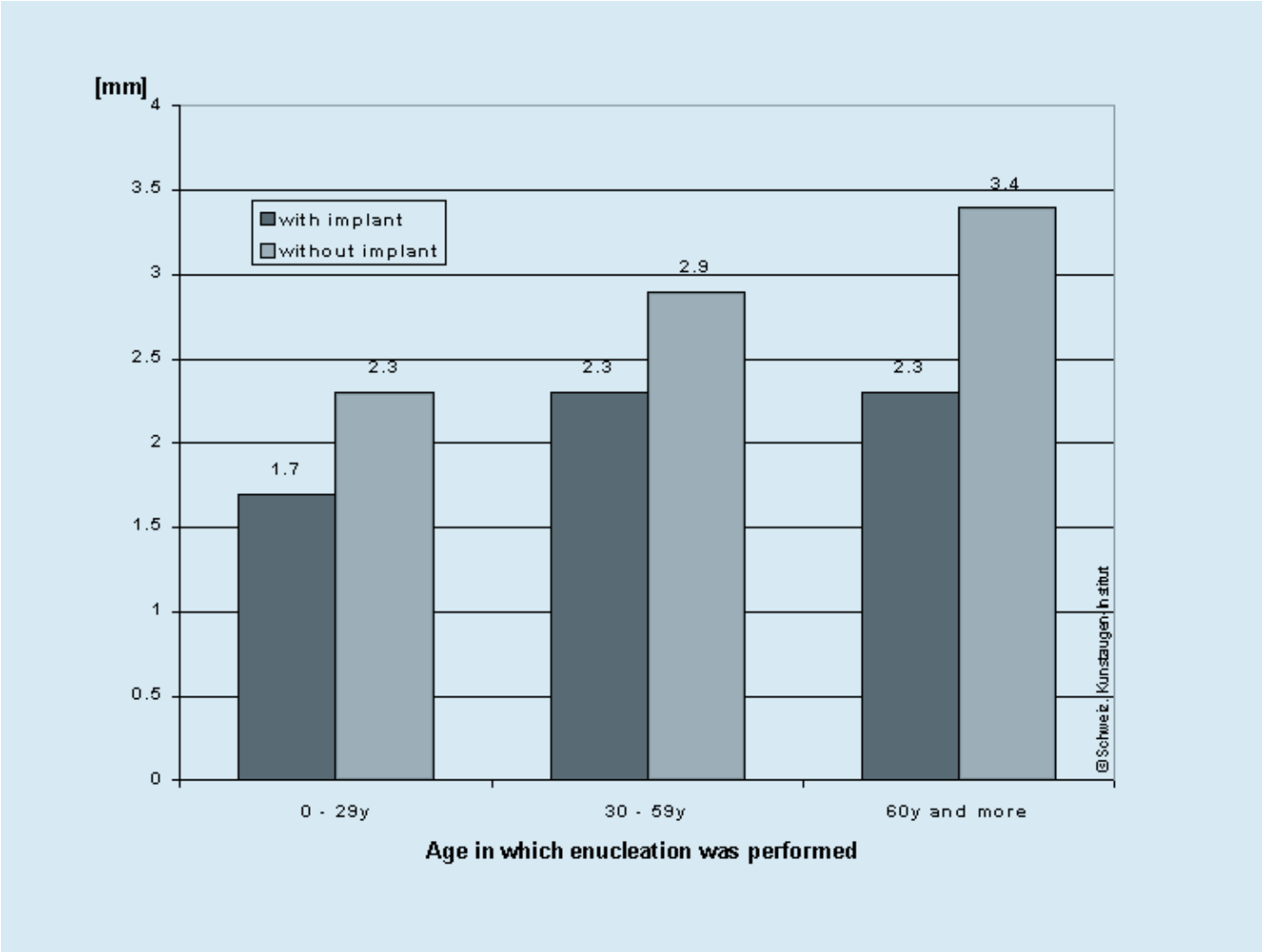
Originally there have been 101 patients with primary orbital implant.
Eleven implants had to be removed later on (due to dehiscence, dislocation, extrusion).

1 out of 10 implants is the cause of an additional surgical intervention.

RESULTS

Differences of enophthalmus
(a) and supratarsal sulcus
(b) between patients with and without implant

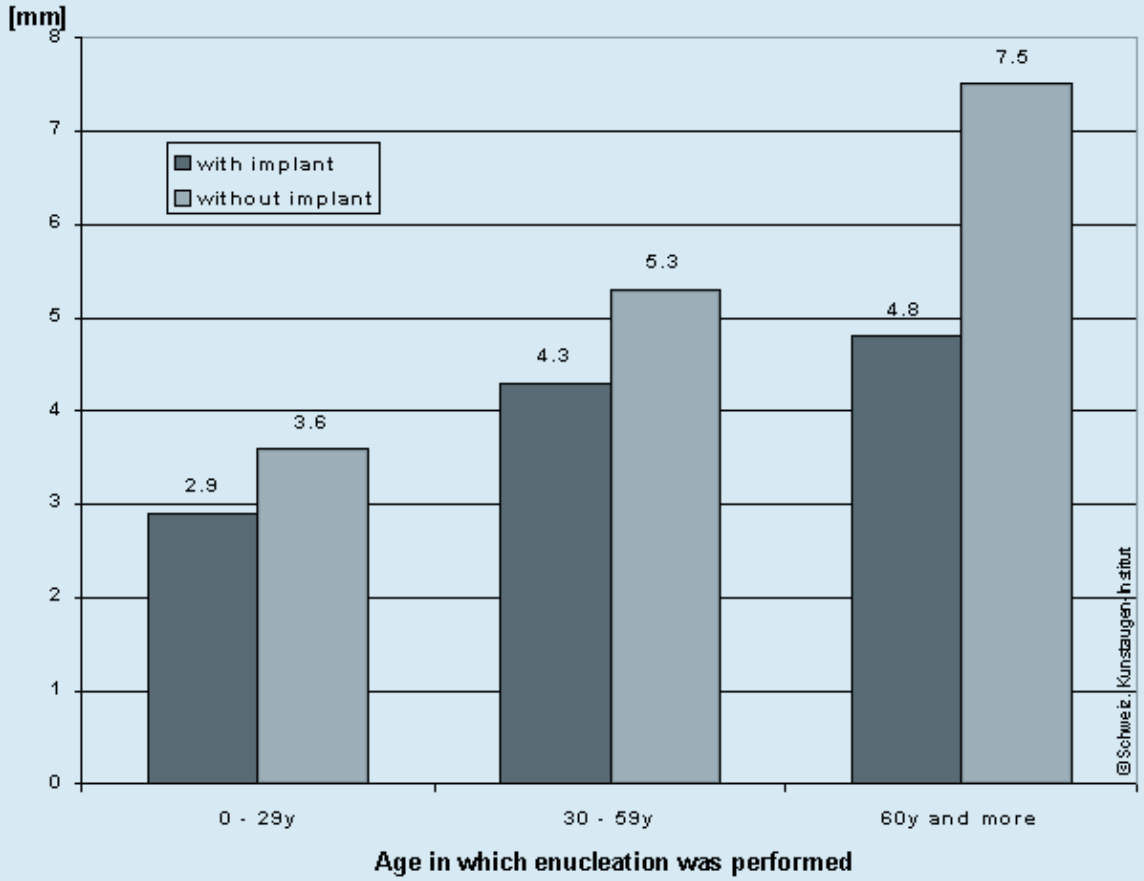
(a) Enophthalmic differences between eye and prosthesis



The mean enophthalmic difference between eye and prosthesis about 2 mm is normal.

RESULTS

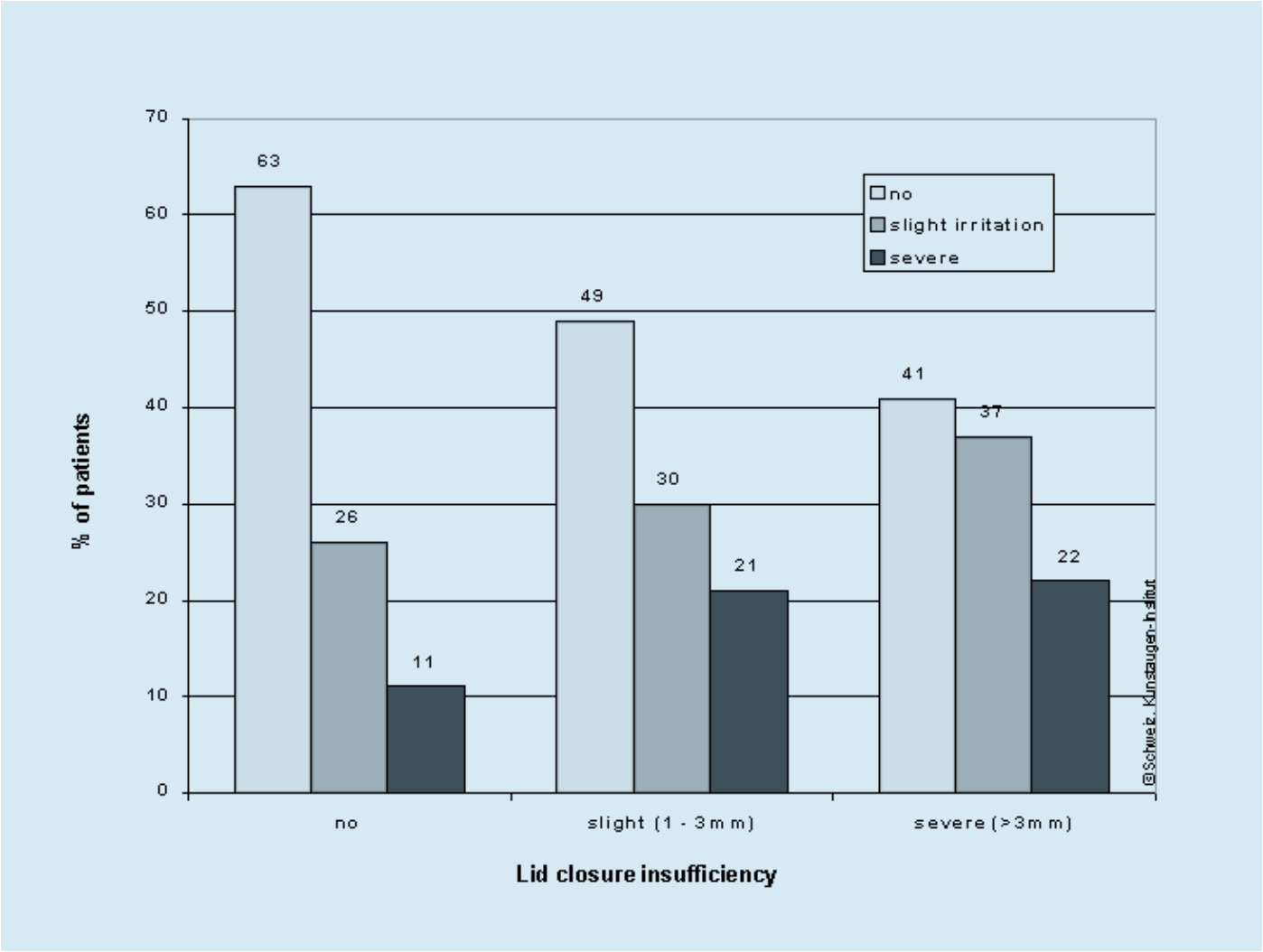
(b) Supratarsal sulcus differences between eye and prosthesis



The mean supratarsal sulcus difference between eye and prosthesis of at least 3 mm is normal.

RESULTS

Lid closure insufficiency and conjunctival irritation

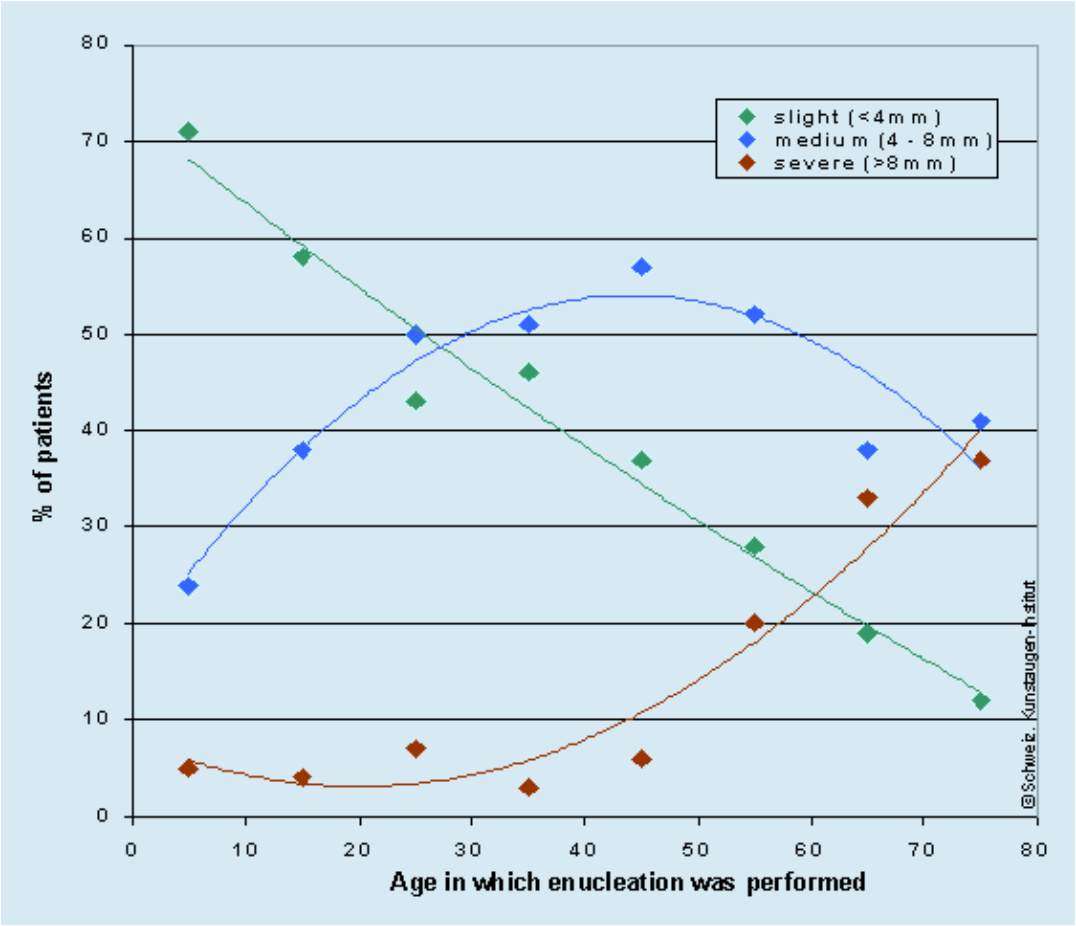


Lid closure insufficiency sustains conjunctival irritation.

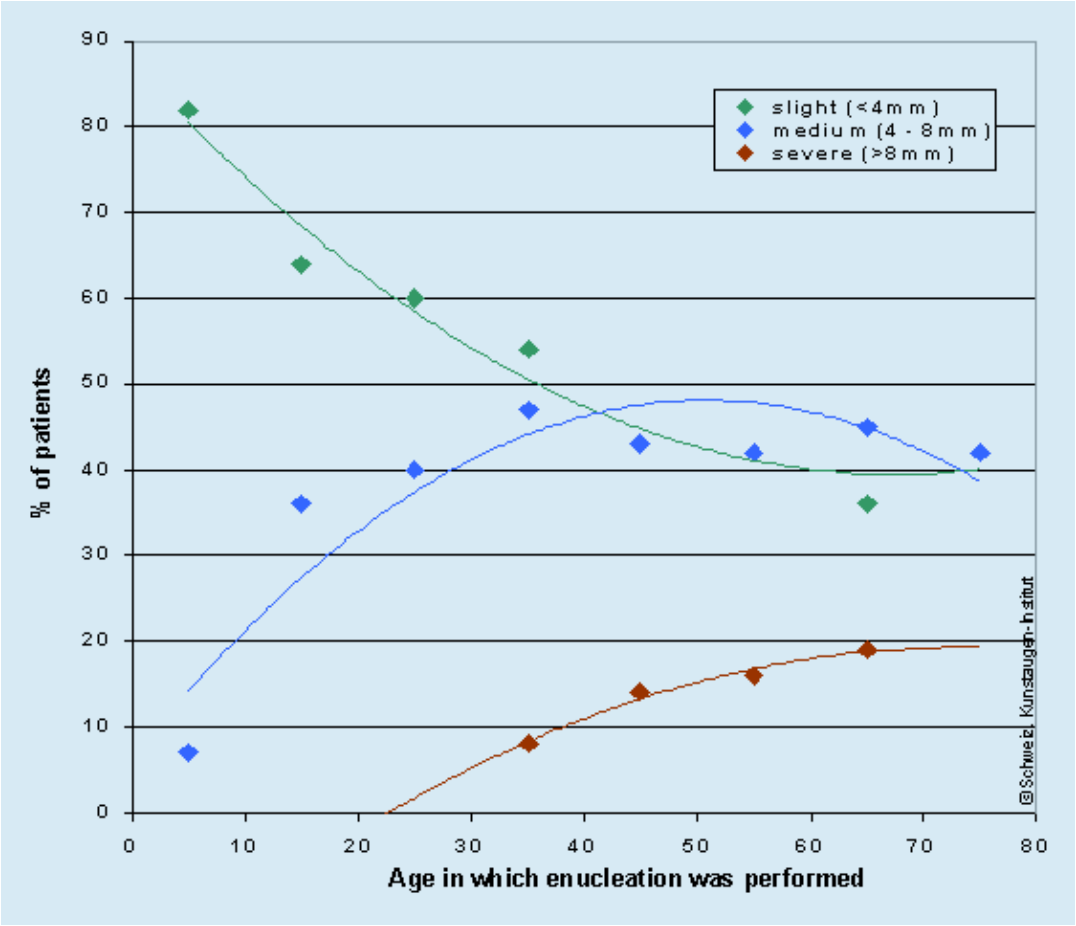
RESULTS

Supratarsal sulcus depression and age in which enucleation was performed

(a) without implant



(b) with implant



Significant differences between the figures above are only visible at age of enucleation more than 45 years. The average supratarsal sulcus depression is distinctly smaller in this group. Younger patients have no advantage of an orbital implant with respect to supratarsal sulcus depression.