

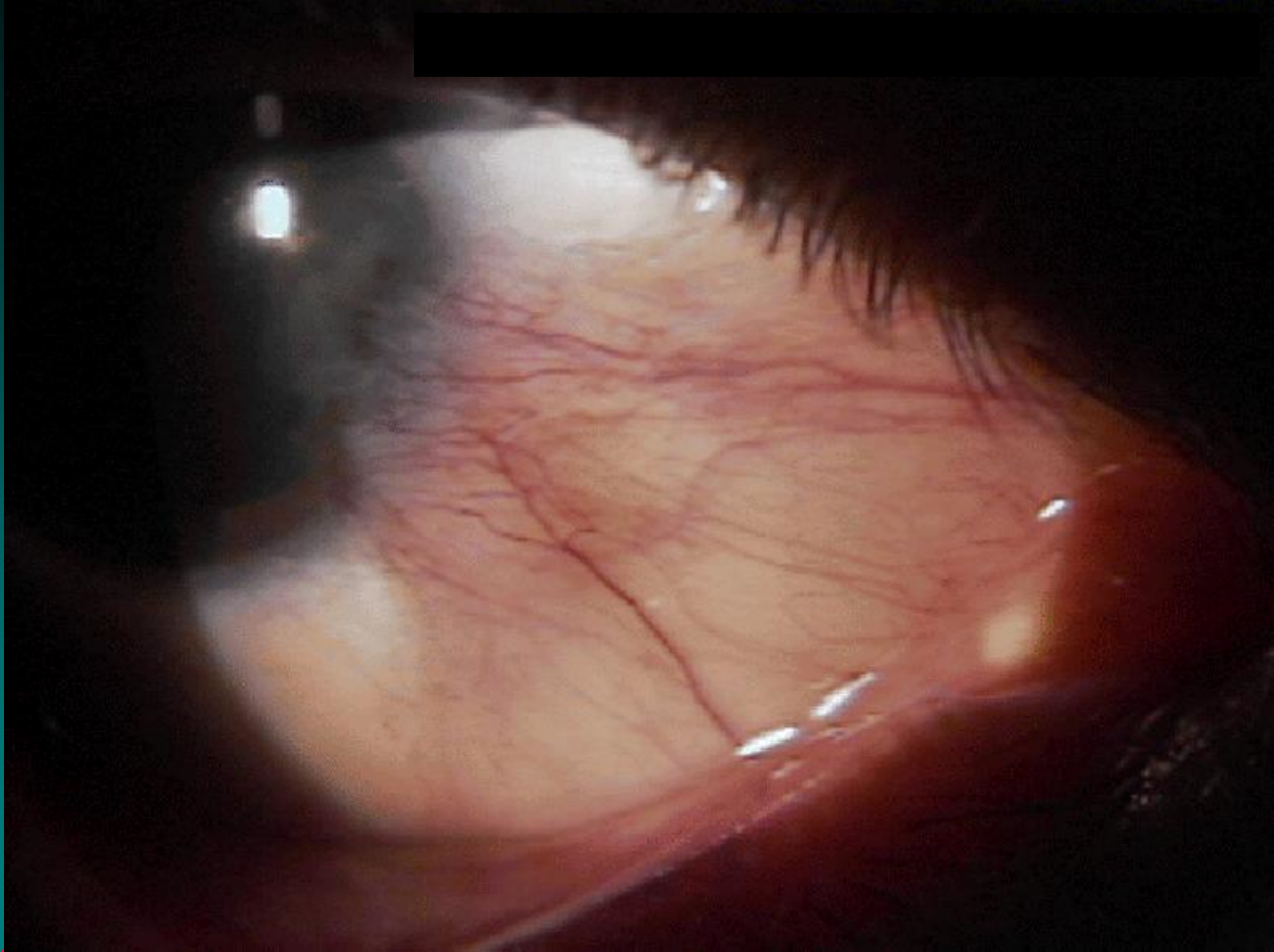
Pterygiums

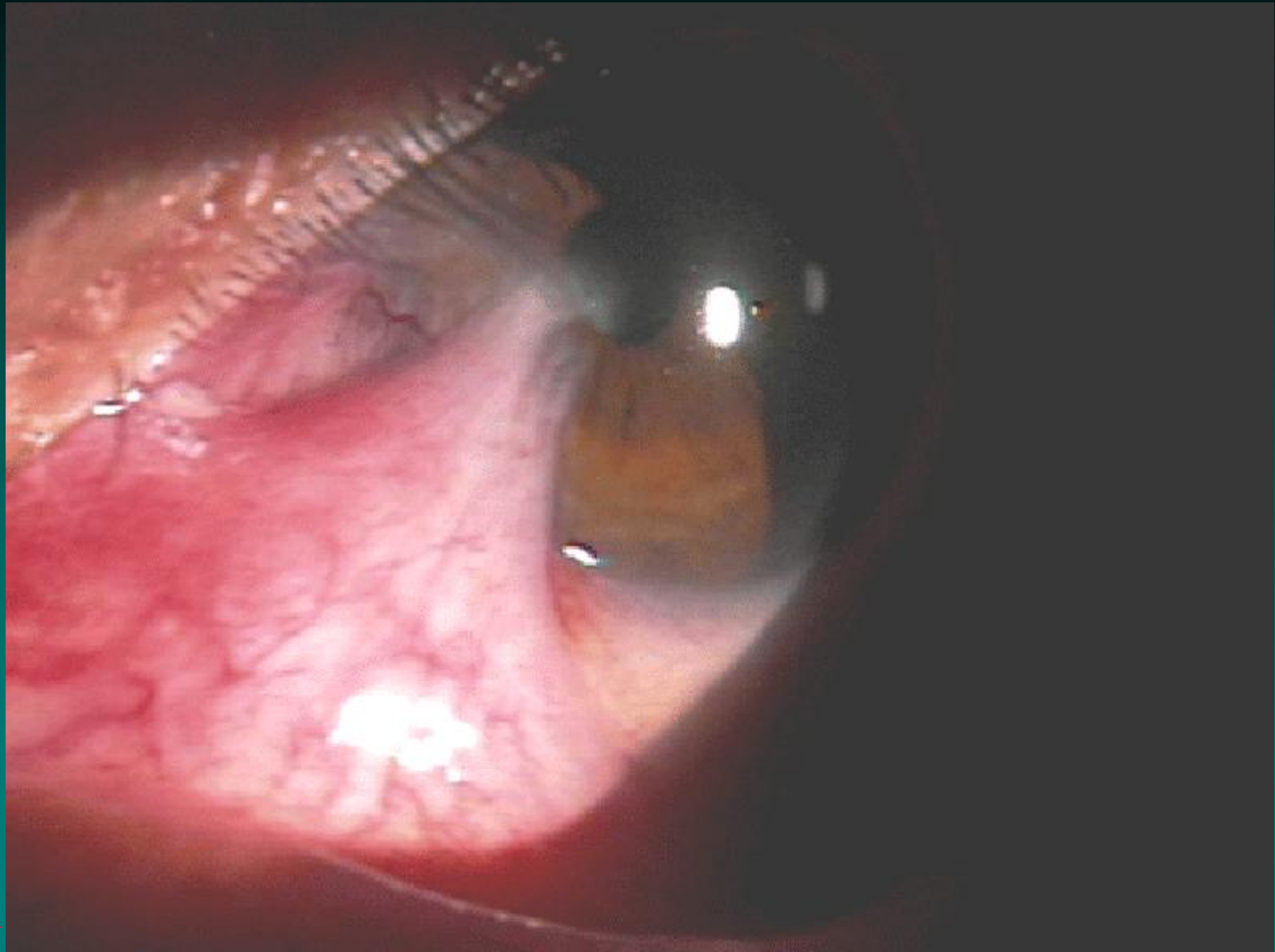
William H. Constad, MD

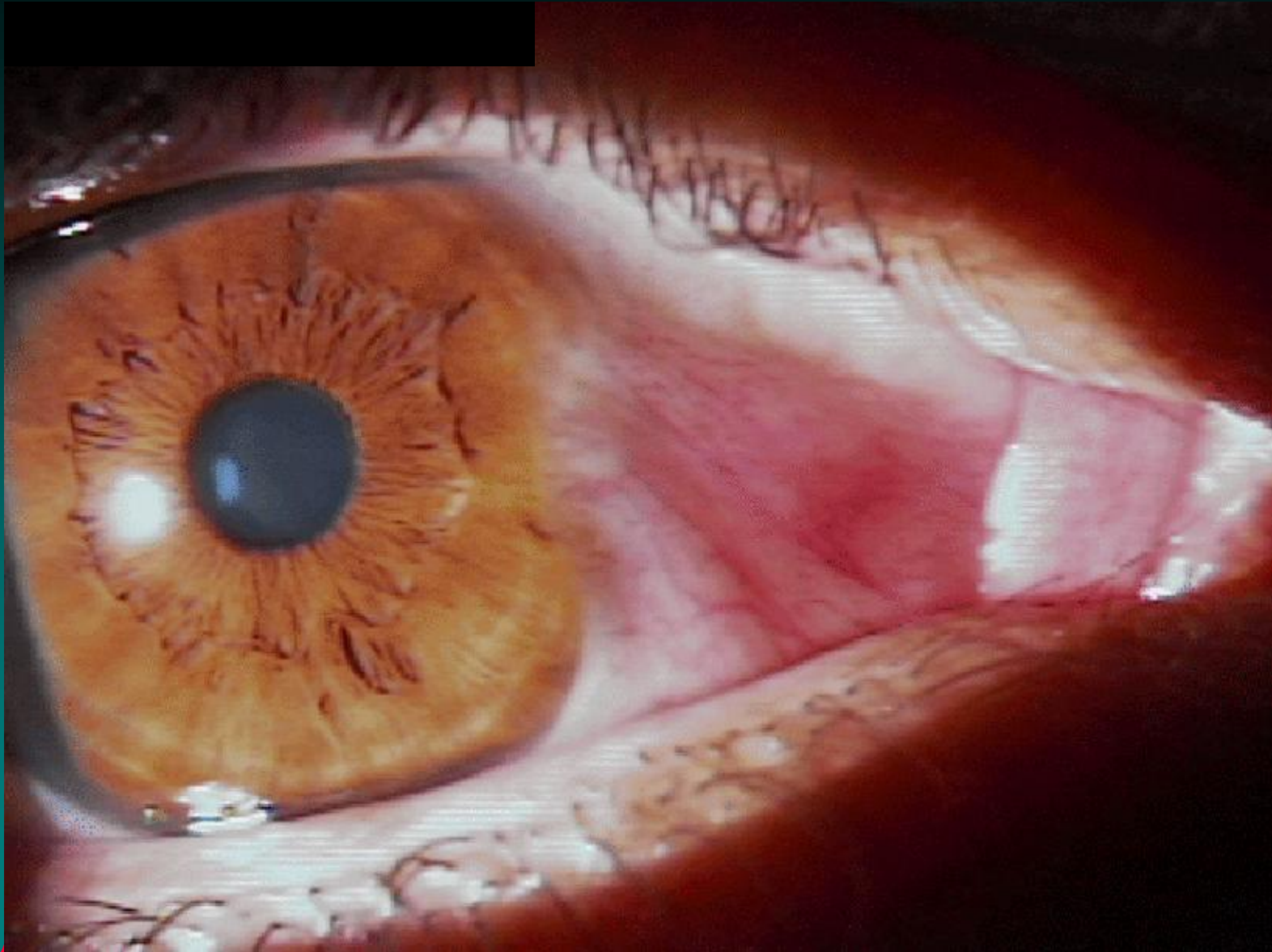
Clinical Professor
Dept. Of Ophthalmology
UMDNJ – Newark

Pterygium

- From the Greek word for wing. It was described by Hippocrates, Galen and others
- A Pterygium is a horizontally oriented triangular growth of abnormal tissue that invades the cornea from the canthal region of the bulbar conjunctiva

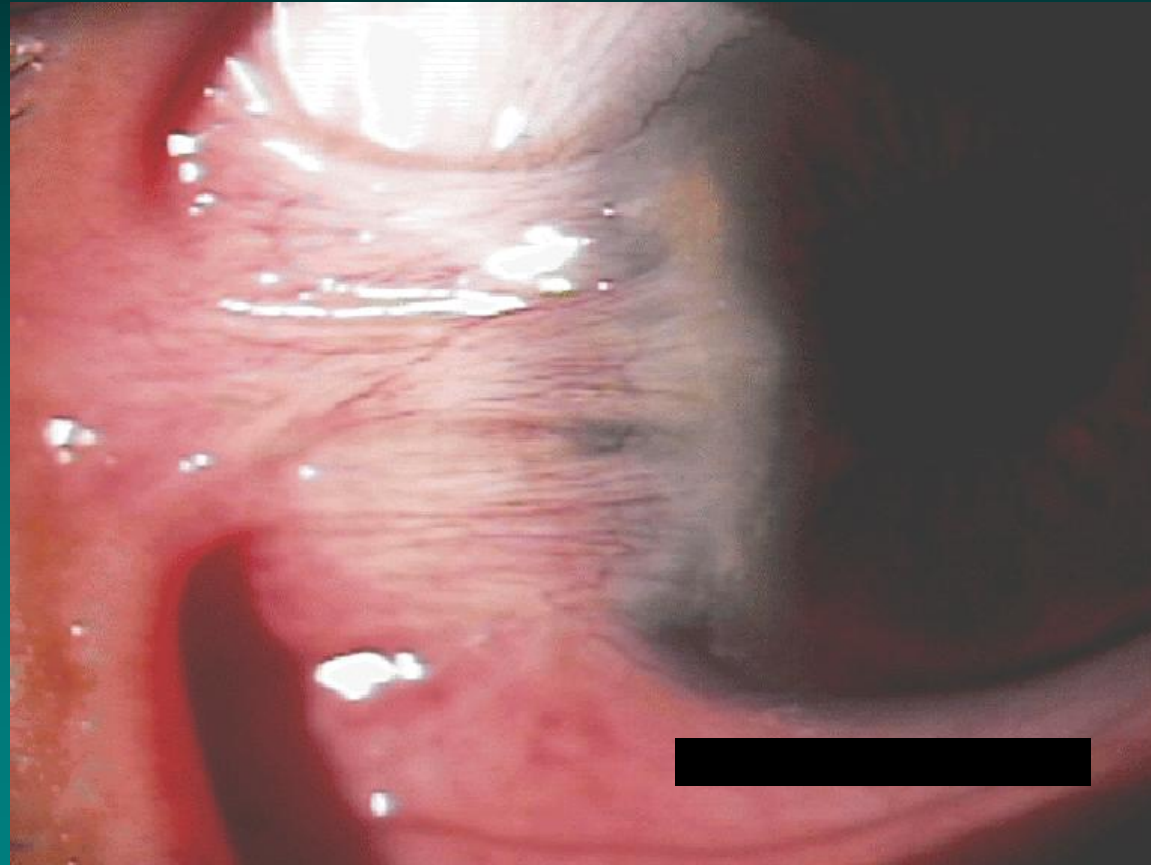










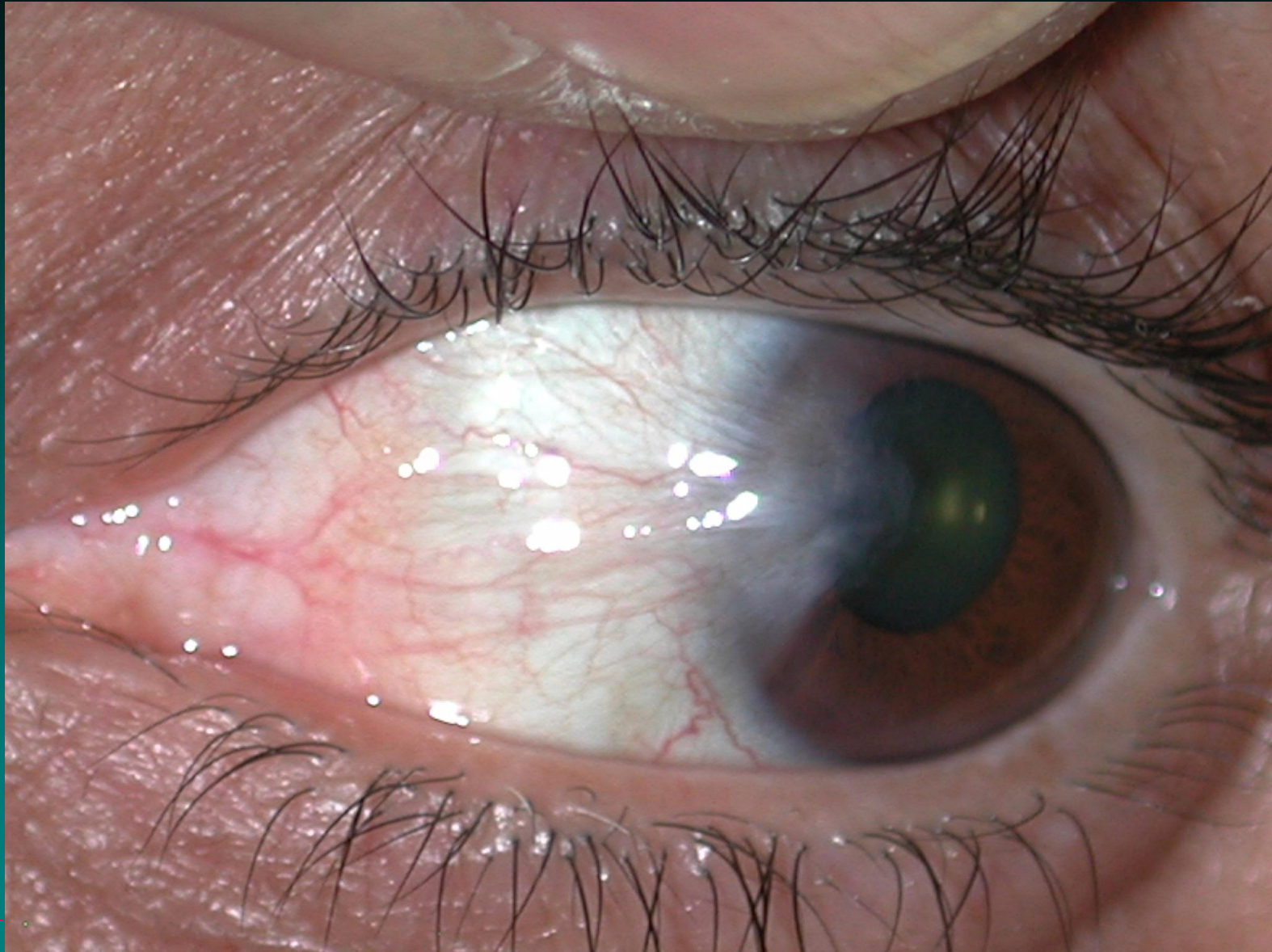


Pterygiums

Differential Diagnosis

- Pseudo-ptyerygium, papilloma, squamous cell conjunctival carcinoma, conjunctival melanoma, and pagetoid or sebaceous carcinoma. epithelial cyst, pyogenic granuloma, kerato-acanthoma, adenoma, fibroma, fibrochondroma, fibrous histiocytoma, angioma, lymphangioma, Kaposi's sarcoma, alveolar endothelioma, neurolemmoma, malignant schwannoma, mycosis fungoides, juvenile xanthogranuloma, leukemia, episcleral osseous choristoma, ectopic lacrimal tissue, lipoma, amyloid, blue nevus, nevus, and limbal dermoid. **Because of their appearance, most of these lesions are easily distinguished from a pterygium**



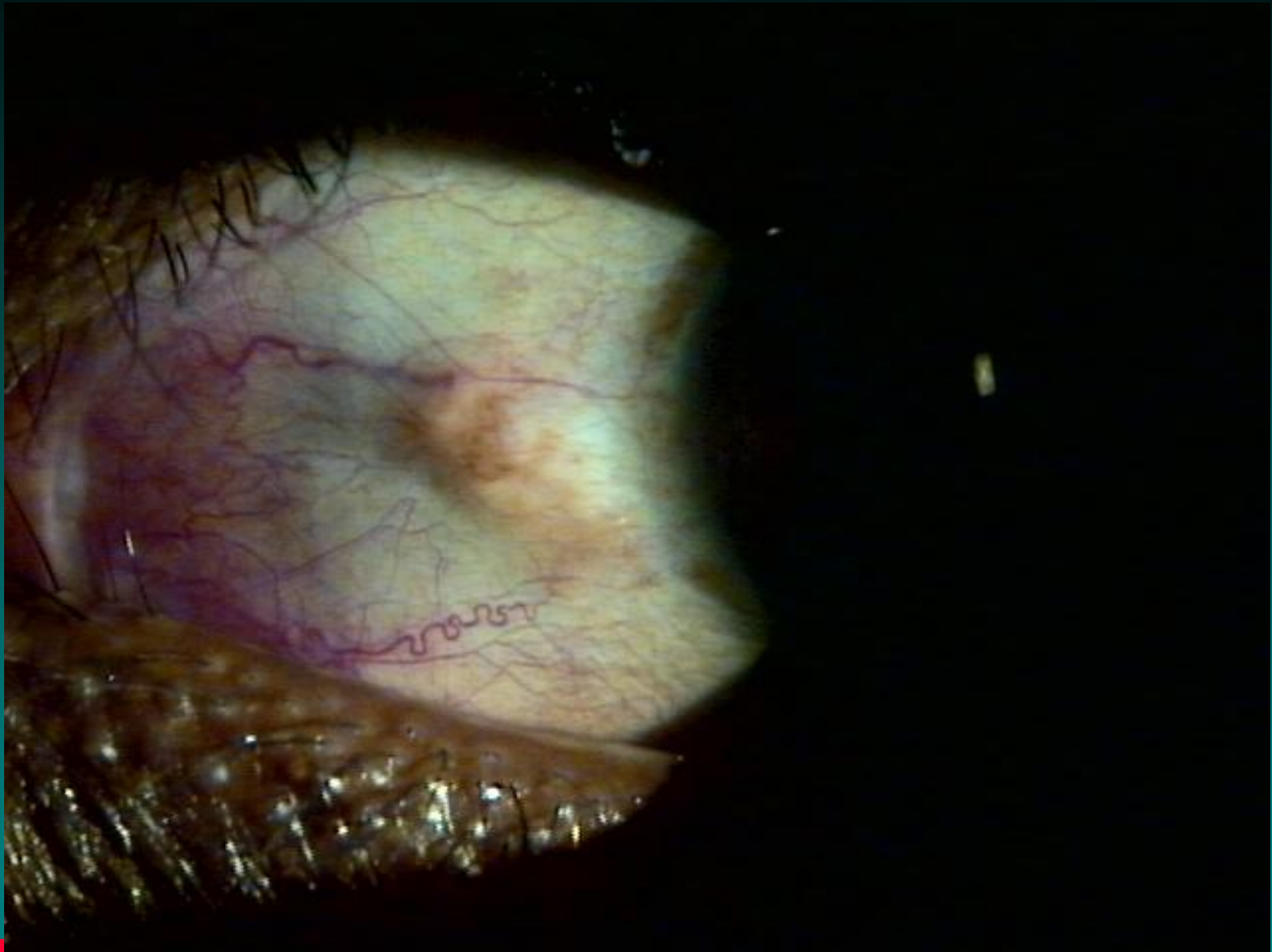


Pinguecula

Definition

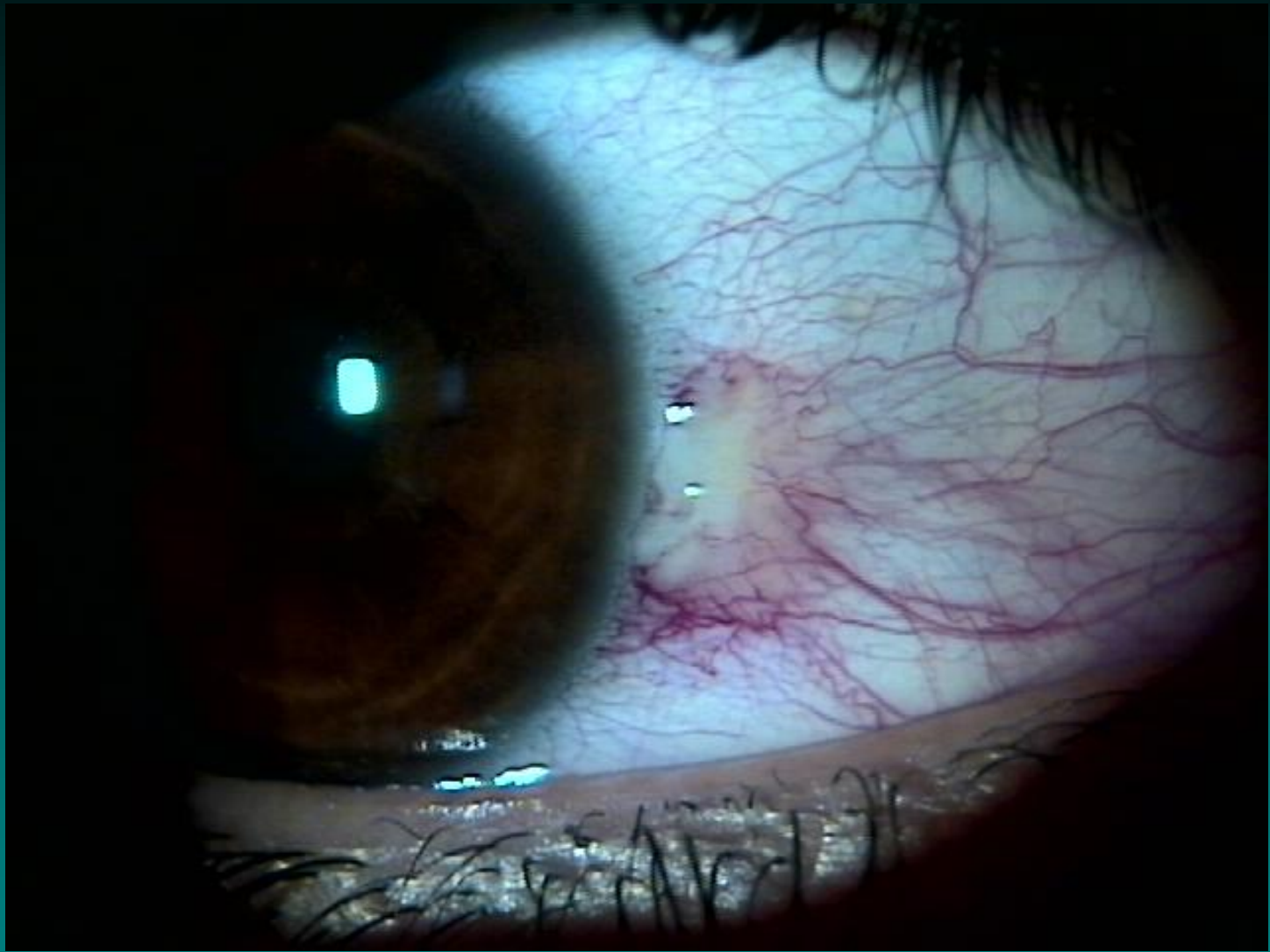
- a small, elevated, yellowish mass confined to the limbus and bulbar conjunctiva in the intra-palpebral fissure and may occasionally become inflamed. Surgical excision is rarely indicated, but if done, the lesion tends not to recur. Pingueculae are common in both temperate and tropical climates and occur with similar frequency in both sexes. Exposure to ultraviolet light does not increase the risk of developing a pinguecula.





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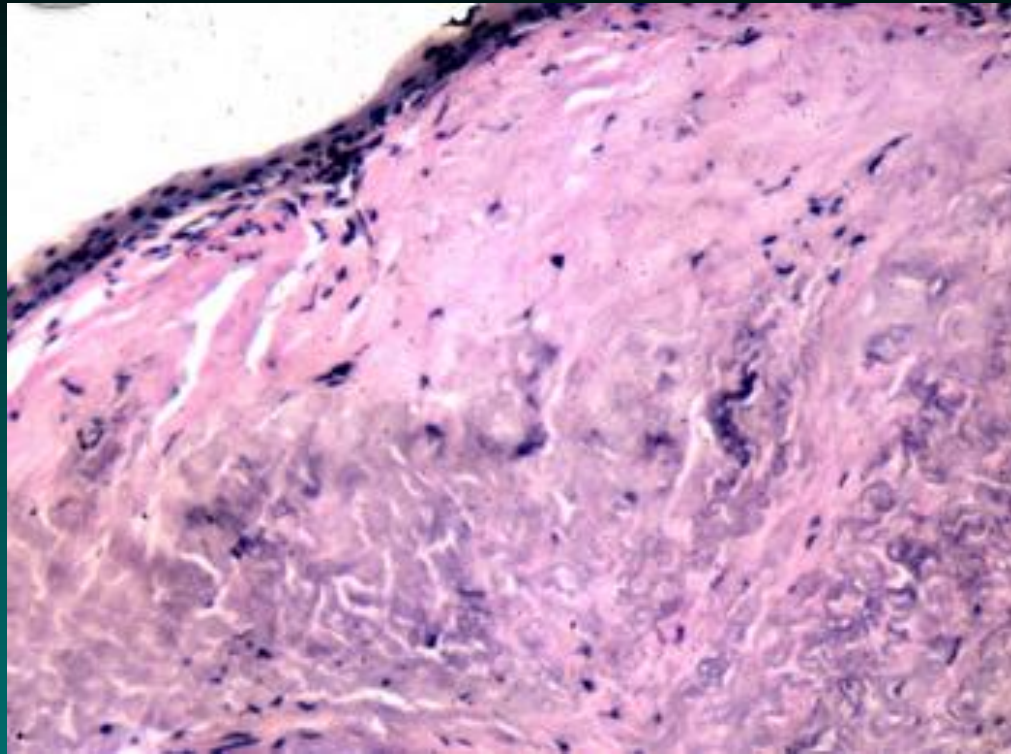
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- Verhoeff elastic stain (black) demonstrates the degeneration of the elastic tissue (the same degeneration is found in pterygia)

Pterygiums

Epidemiology and Prevalence

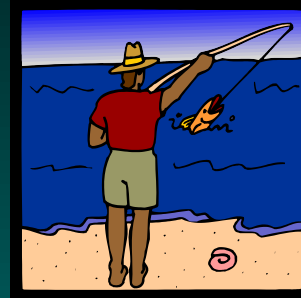
- 22% prevalence in equatorial countries
- <2% prevalence above 40° latitude
- Autosomal Dominance seen, but most cases are sporadic
- Highest incidence between ages 20-49, rare under 15 years of age



Pterygiums

Risk Factors

- 44x in tropics
- 11x in sandy, outdoor environments
- 9x for those NOT wearing sunglasses
- Increased incidence with exposure to UV (both UVA & UVB)



Pterygiums

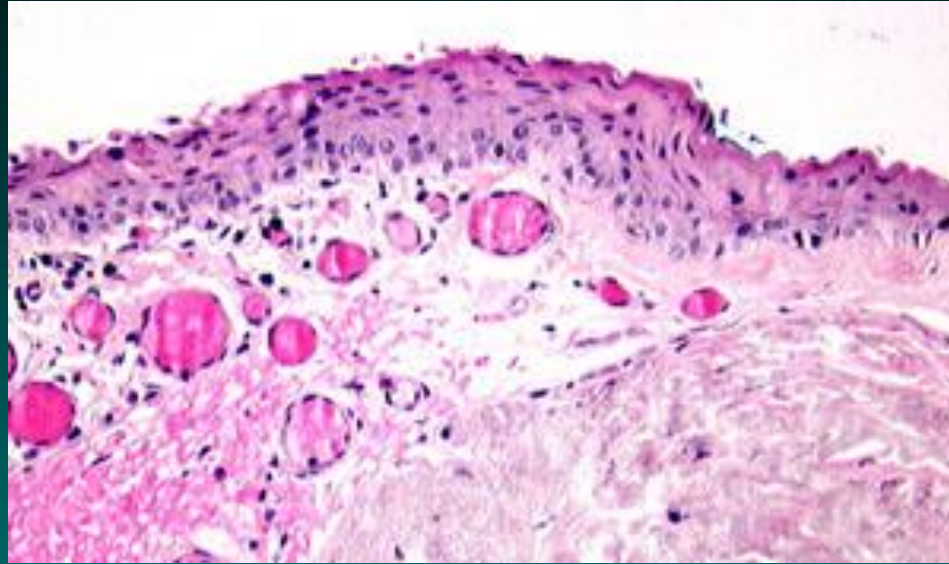
Histology

- Hyalinization of the sub-epithelial connective tissue of the substantia propria
- Diffuse or lobular collections of eosinophilic granular material and increased number of fibroblasts and other cells.

Pterygium

Histology ...

- Increased amount of thickened and tortuous fibers that stain strongly with elastic stains immediately adjacent to and beneath the hyalinized region (elastotic material)
- Concretions within the hyalinized and granular areas that may show either eosinophilia or basophilia



- Histology of pterygium. Note the severe solar elastosis beneath the epithelium on the right side. The dilated vessels beneath the epithelium to the left correspond to the "injection" seen clinically.

Pterygiums

Symptoms

- Sandy Sensation
- General Irritation
- Burning
- Blurry Vision





PATIENT:
CLINIC#:

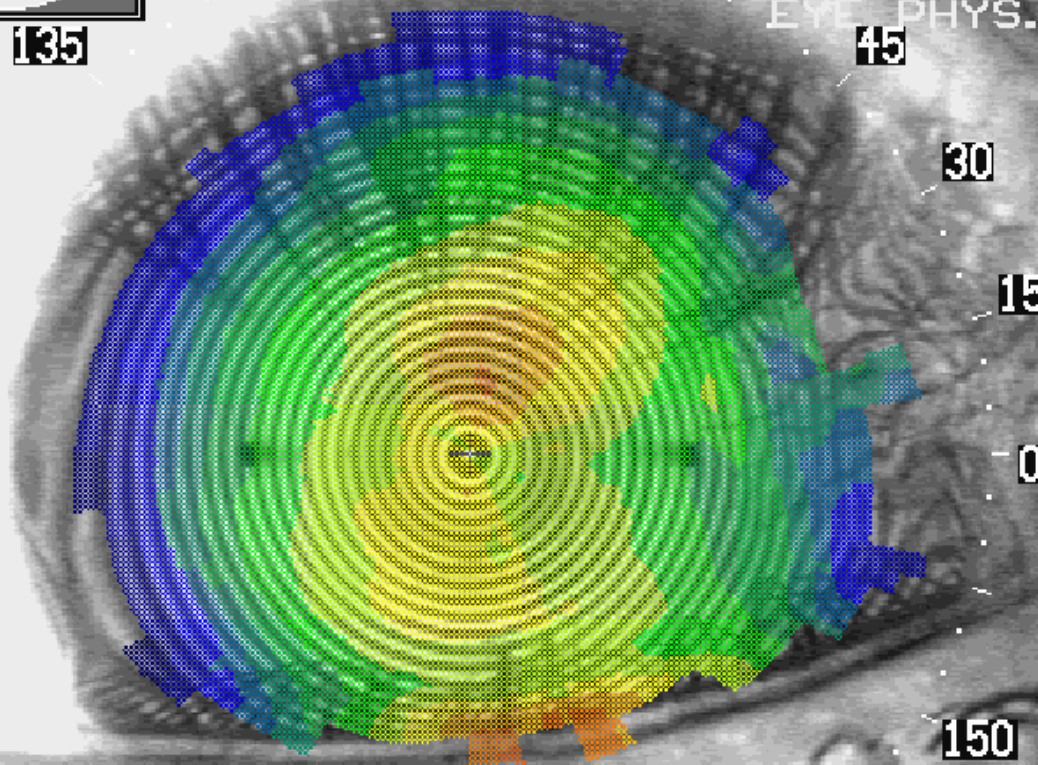
HUDSON EYE PHYS.
SS#:

105 90 75
120 60

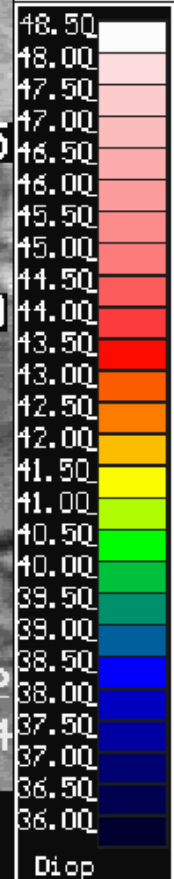
HUDSON
EYE PHYS.

135

45



radius = 8.16 mm
power = 41.37 D
meri = 0.0°
axis = 0.0°
dist = 0.00 mm



Press **F1** Key
for **HELP**

Diop
Start: **36.00**
Step: **0.50**

Next Menu
← Map
ESC- Exit

SMOOTH = 1

ADJUSTABLE Ver: 1.60

OS
14:58
10/21/94
Exam# 493
Photo# 2

15:02
10/21/94

60 120
75 90 105

NEW

Pterygium

Signs

- Redness
- Tearing
- Growth beyond limbus



Pterygium

Medical Treatment

- Lubricants
- Vaso-constrictors
- Mild Steroids
- UV Blocking sunglasses



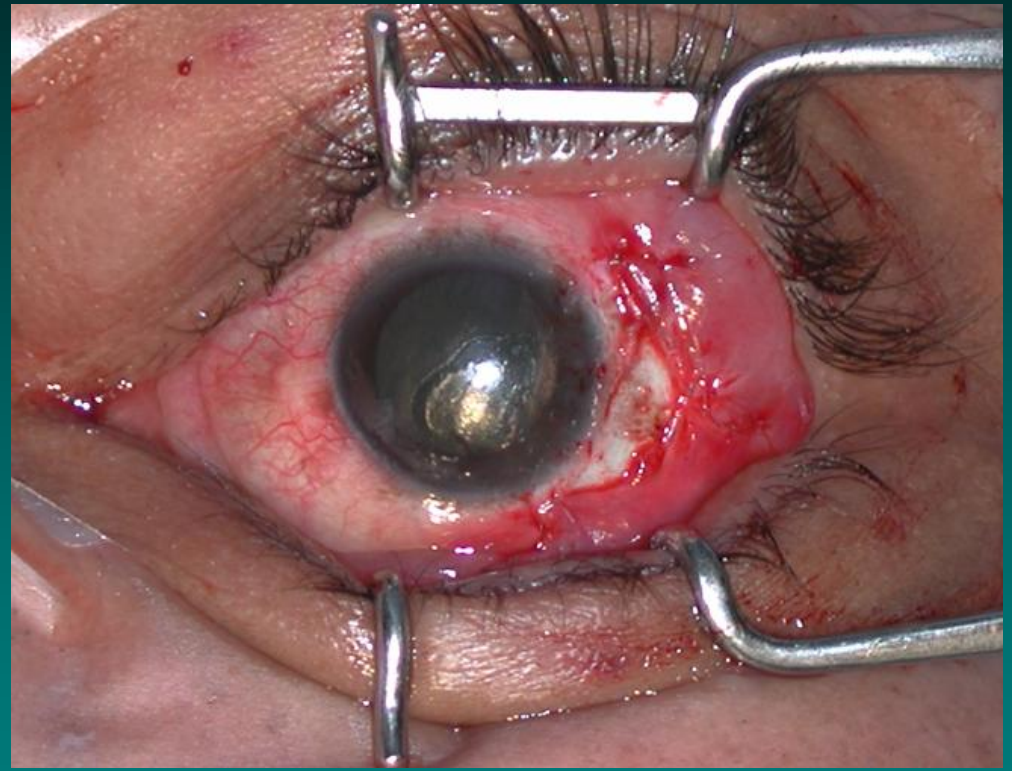
Pterygiums

Surgical Options

- Avulsion
 - Recurrence 25 – 75%
- Bare Sclera
 - Recurrence 26- 60%
- Excision with conjunctivoplasty
 - Recurrence rate 5% (1 yr) 20 – 30% longer term
- Bury head
 - Recurrence rate not reported



Excision with conjunctivoplasty and conjunctival recession



10 days Post-Op



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Pterygiums

- Excision with conjunctival auto-graft
 - Recurrence rate 4 – 10% (??)
- Excision with lamellar keratoplasty
 - Recurrence rate ??
- Excision with Mitomycin C 0.02%
 - Recurrence rate 4 – 10%
- Excision followed by treatment of recurrence with 5 FU – recurrence rate (?? 0%)



Ophthalmic Surgery and Lasers

[\[About Ophthalmic Surgery and Lasers\]](#) [\[Table of Contents\]](#)

Volume 31 (1) * January/February 2000 * Clinical Science (abstract)

Clinical Application of Er:YAG Laser for the Treatment of Pterygium

[Kunihiko Nakamura, MD; Hiroko Bissen-Miyajima, MD; Shigeto Shimmura, MD; Kazuo Tsubota, MD](#)

BACKGROUND AND OBJECTIVE

To evaluate the clinical application of Er:YAG laser for the treatment of pterygium.

METHOD

Five patients (5 eyes) with pterygium, 2 primary cases and 3 retreatment cases, whose ages ranged from 44 to 68 years (mean 54.4 years), were treated with the Er:YAG laser. The optical system consisted of a fluorozirco-aluminate glass fiber and a handpiece tip made of quartz glass. The tip of the guiding probe was applied to the surface of the pterygium, where the laser beam was emitted. The radiant energy was set at 10 mJ with water spray.

RESULT

The removal of pterygium was accomplished under topical anesthesia with a laser output approximate range from 50 to 100 shots. Complications such as corneal erosion or thinning of the sclera were not observed. However, recurrence was seen in the 3 retreatment cases.

CONCLUSION

The Er:YAG laser system may be a clinically useful tool as a laser surgical knife for ocular tissue. [*Ophthalmic Surg Lasers* 2000;31:8-12.]

AUTHORS

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Pterygium

Surgical Approach

- Local Anesthesia
 - Retro or peri-bulbar block vs. sub conj lido
- Begin with conj incision to delineate area to be excised. Then .5 or .3 forceps just behind the head
 - Grasp full width of pterygium and lift
 - Use iris sweep under pterygium for counter-traction against globe
 - Usually pterygium can be “ripped” free of cornea



Pterygium

Surgical Approach cont'd

- Blunt dissection under conjunctival extent
- Cut with Wescott above and below then lastly at most medial extent to remove specimen
- Light hemostatis
- Polish cornea with 5mm diamond burr
- Hemostasis



Pterygium

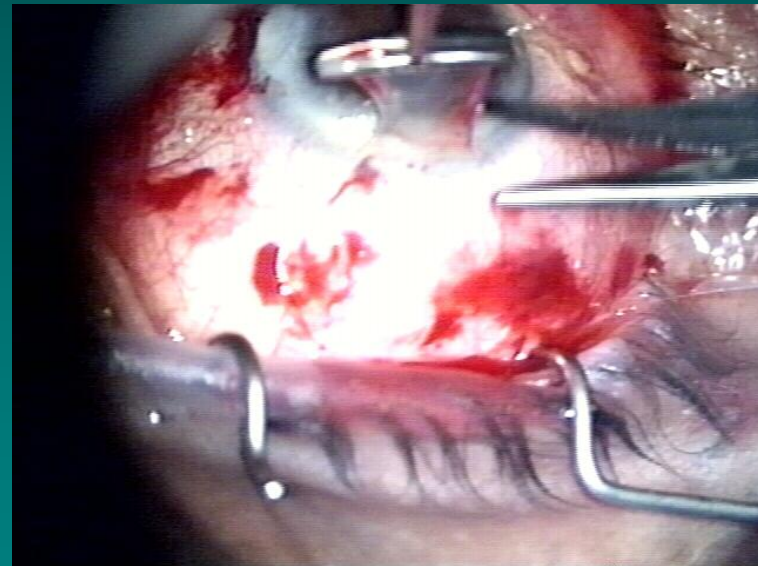
Surgical Approach cont'd

- Rotate globe downward
- Mark conj. In supero-temporal quadrant
- Dissect – gently – want conjunctiva ONLY
- Position graft on bed
- Glue with Teseel fibrin glue or Suture with 8-0 or 10-0 vicryl sutures



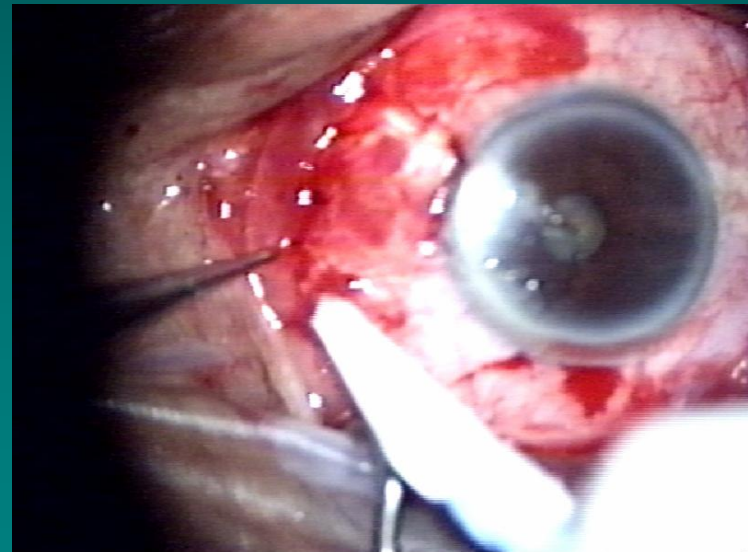
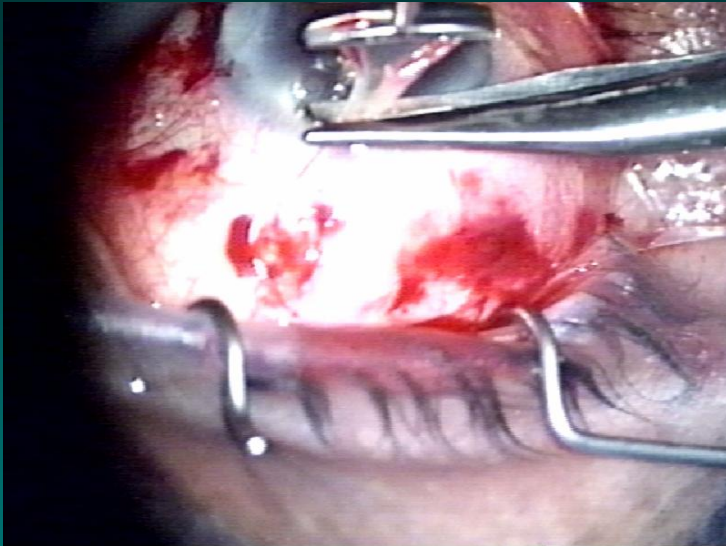
Pterygium

Surgical Approach cont'd



Pterygium

Surgical Approach cont'd



Pterygium



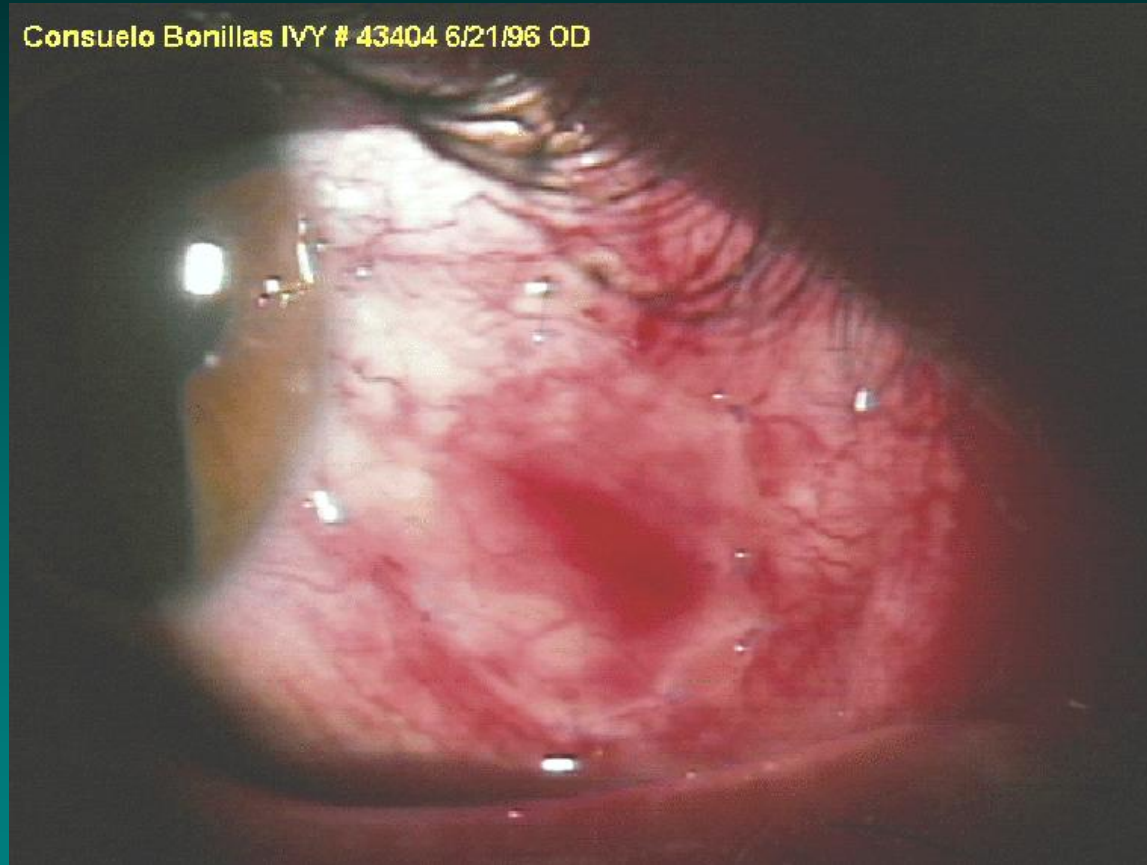
Pterygiums

Post Op Treatment

- Maxitrol or Tobradex ointment qid for two weeks
 - Until sutures dissolve
- Topical mild steroid (FML or equiv.) 2 – 3 months
- Avoid UV exposure, dusty environments, etc.

One Day Post Op

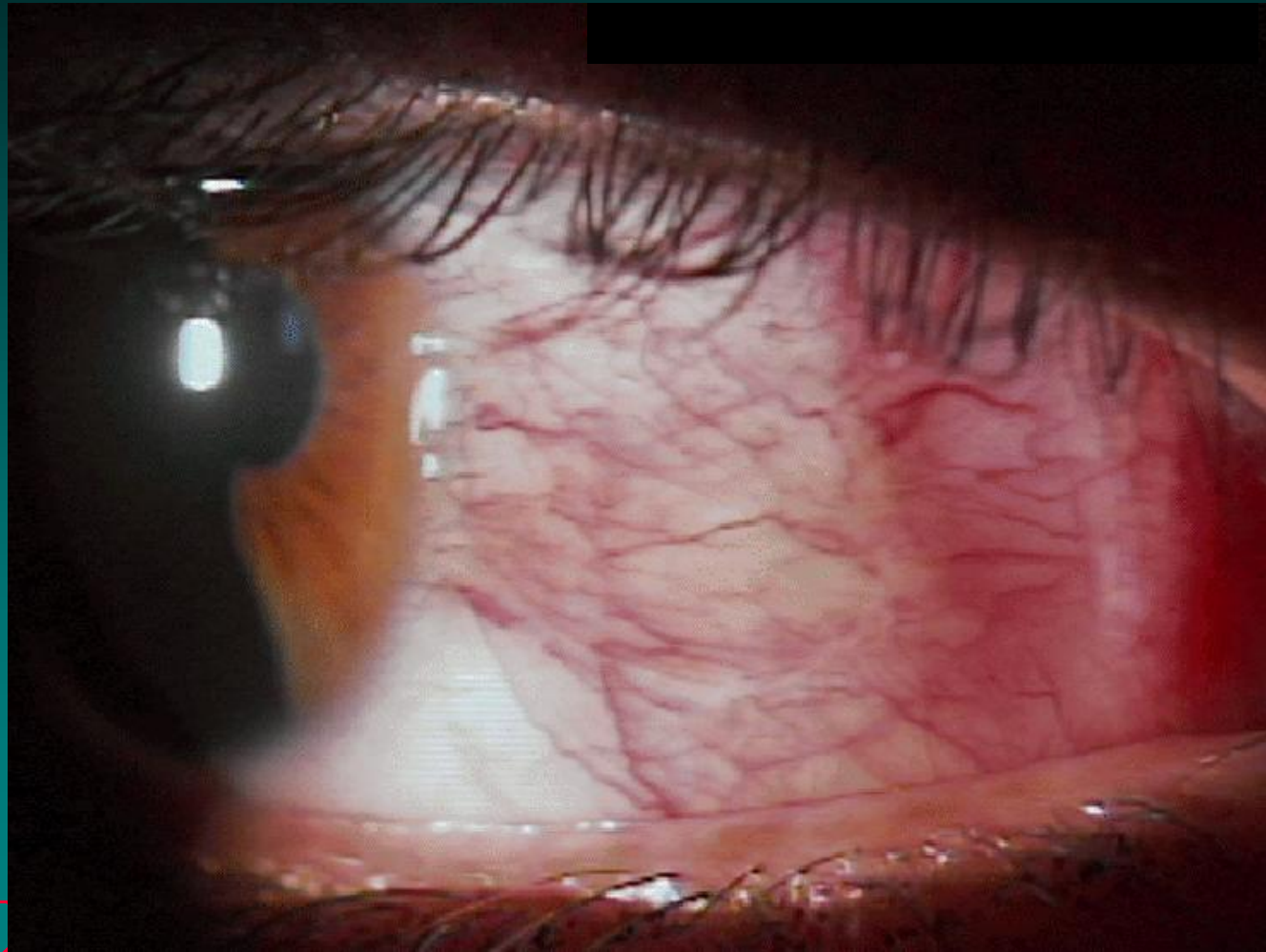
Consuelo Bonillas IVY # 43404 6/21/96 OD



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One Month Post Op



Happy Halloween!



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