



Instituto de Oftalmología
"Fundación de Asistencia Privada Conde de Valenciana IAP"[®]
Unidad Santa Fé



J. Antonio Bermudez-Magner, MD FICO
Conde de Valenciana Ocular Pathology Laboratory
Instituto de Oftalmología Conde de Valenciana
UNAM (Universidad Autónoma de México)
Telephone: +521-555-454-2269
e-mail: Antonio.bermudez@institutodeoftalmologia.org
antoniobermudez@gmail.com

Scant tissue no glass slide
Power Point presentation

Corneal Unknown Washington DC September 13-15, 2018

Clinical History: This 9 year-old male with history of corneal lesion left eye for 2 years was referred to Instituto de Oftalmología Conde de Valenciana for evaluation of corneal opacity left eye occasional red eye and foreign body sensation undergoes excisional biopsy. History of 2 previous excisions in outpatient facility. 6 months previous to first presentation presented with mild pencil trauma that required no treatment. No drops instilled.

Past Medical History: None

Examination:

VA: 20/20 OU

Cornea: White plaque present on the left cornea that measures 3.5 x 2.5 x 0.3 mm located from 7 to 8 o'clock.

Pupils: Unremarkable OU

IOP: 14 mm Hg OD; 14 mm Hg OS Goldmann.

AS OCT: OS plaque like hyper-dense lesion with apparent overlying epithelium that measures 100 microns. In thickness.

Surgery: Excisional biopsy

Gross:

The specimen consisted of a single piece of white opaque soft lesion that measures 3.5 x 2.5 x 0.3 mm.

Microscopic: Examination discloses an acellular matrix with basophilic deposits Present underlying Bowman's Layer. In Gram staining there is presence of gram negative bacilli organized in clusters overlying corneal stroma. Bowman's layer is otherwise intact. Propidium Iodine a fluorochrome that stains for DNA/RNA looking for cellular components of the matrix is negative. Carbohydrate fluorochrome staining is positive throughout the matrix

Impression: Cornea, OS: Biofilm formation with gram negative bacilli present further classification from microbiology recommended.

Discussion:

I believe this case differs from typical infectious crystalline keratopathy given that it has a more stuck on appearance than the usual cases, the patient was not on chronic topical corticosteroid therapy, the microorganisms involved are gram negative bacilli rather than the more common *Streptococcus Viridans*. Therefore I believe this case is consistent with biofilm formation underneath Bowman's layer in a patient with corneal trauma.

References:

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- Dunn S, Maguen E, Rao NA. Non inflammatory bacterial infiltration of a corneal graft. *Cornea.* 1986;4:189-193.
- Fulcher TP1, Dart JK, McLaughlin-Borlace L, Howes R, Matheson M, Cree I. Demonstration of biofilm in infectious crystalline keratopathy using ruthenium red and electron microscopy. *Ophthalmology.* 2001 Jun;108(6):1088-92.