



Anterior Segment Optical Coherence Tomography in Cicatrizing Conjunctivitis due to Chronic Trachoma and Ocular Cicatricial Pemphigoid

Thesis

Submitted in partial fulfillment of MSc degree
of ophthalmology

By

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Faculty of medicine-Fayoum University

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Abstract

Purpose: to identify the clinical features and AS-OCT findings in cicatrizing conjunctivitis due to ocular cicatricial pemphigoid (OCP) and chronic trachoma.

Methods: The study was a prospective observational comparative study, encompassing 30 eyes of biopsy-proven OCP patients, 30 eyes of chronic trachoma patients, and 30 eyes of normal individuals. Detailed histories regarding autoimmune diseases, eye trauma, eyelid surgery, and topical eyedrop usage were collected from all participants. Each patient underwent a comprehensive eye examination, including assessment of the lid margin, tarsal and bulbar conjunctiva, and cornea using a slit lamp. Photographic documentation of the findings was performed. Additionally, all patients underwent evaluation via horizontal line scan in the lower bulbar conjunctiva using anterior segment optical coherence tomography (AS-OCT). The qualitative findings obtained from AS-OCT scans were transformed into quantitative data using the ImageJ software program. This allowed for precise measurements and analysis of various parameters, enabling a more objective assessment of the observed clinical features. By utilizing ImageJ, the researchers could quantify characteristics such as presence of sub-epithelial changes, enhancing the accuracy and reliability of their study findings.

Results: In our study, we observed a female predominance among patients with ocular cicatricial pemphigoid (OCP). Clinical indicators of OCP included a history of eye redness, burning sensation, gritty sensation, and watery eyes. OCP primarily affects the lower lid and lower bulbar conjunctiva, particularly the nasal region. Typical manifestations of OCP encompass lower lid metaplastic trichiasis, loss of the plica semilunaris, caruncle effacement, shortening in the lower fornix, symblepharon between the lower bulbar and palpebral conjunctiva, ankyloblepharon, and corneal epithelial erosion, occasionally accompanied by ocular surface keratinization. Anterior segment optical coherence tomography (AS-OCT) commonly reveals a subepithelial hyper-reflective line in all OCP cases, along with subepithelial clefting observed in 80% of cases.

On the other hand, clinical findings suggestive of chronic trachoma include a history of eye redness, burning sensation, watery eyes, and prominent gritty sensation. Chronic trachoma primarily affects the upper palpebral conjunctiva and is characterized by post-trachomatous degenerations (PTDs), Arlt's line, upper lid entropion, and entropic trichiasis, with a tendency towards metaplastic trichiasis. Corneal epithelial defects are more prevalent than erosion, and ocular surface keratinization is typically absent in chronic trachoma cases. AS-OCT findings in chronic trachoma often reveal subepithelial diffuse hyperreflectivity in all cases, with subepithelial clefting observed in 43.3% of cases.

Conclusion: The distinctive clinical and AS-OCT findings offer valuable insights into the differential diagnosis and management of OCP and chronic trachoma, aiding in the development of targeted and effective therapeutic strategies for affected patients.