

Chlorpromazine-Induced Ocular Toxicity: A Rare Case with Corneal, Lenticular, and Retinal Involvement

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Abstract: Purpose: To report a rare case of chlorpromazine-induced ocular toxicity with corneal, lenticular, and retinal involvement. Methods: Case report of a 47-year-old female with long-term chlorpromazine use, evaluated with multimodal imaging. Results: Findings included corneal granular deposits, anterior subcapsular cataracts, and ellipsoid zone loss on OCT. The cumulative dose was approximately 2400 g. Conclusion: Chronic chlorpromazine therapy can cause significant ocular toxicity. Routine screening and early drug modification are crucial to preserve vision.

Keywords: Chlorpromazine toxicity, Ocular changes, Corneal deposits, Retinal involvement, Drug-induced cataract

1. Introduction

Chlorpromazine (CPZ), a first-generation antipsychotic, has been widely used for psychiatric disorders. Although newer agents are often preferred due to fewer side effects, CPZ remains in use in resource-limited settings. Ocular adverse effects include corneal and lens opacities, and rarely, pigmentary retinopathy. We report a rare case with corneal, lenticular, and retinal changes documented with multimodal imaging.

2. Case Report

A 47-year-old female presented with progressive diminution of vision in both eyes for one year. She had a 17-year history of psychiatric illness, managed with haloperidol, trihexyphenidyl, chlorpromazine, and diazepam. CPZ was replaced with risperidone five months before presentation due to visual complaints.

Ocular examination revealed BCVA of 6/12 (OD) and 6/24 (OS). Slit-lamp showed granular deposits in Descemet's membrane and corneal stroma. The lens demonstrated anterior subcapsular stellate opacities. OCT confirmed hyperreflective specks in the corneal stroma and localized ellipsoid zone loss at the macula. The cumulative dose of CPZ was ~2400 g over 17 years.

3. Discussion

CPZ ocular toxicity is dose- and duration-dependent. Corneal deposits and anterior subcapsular opacities are well recognized, while retinal toxicity is rare. Our patient showed classic corneal and lenticular changes with OCT evidence of photoreceptor disruption. The cumulative dose aligns with previous reports describing toxicity above 2000 g. Although CPZ use is declining in developed countries, it remains common where affordability matters, underlining

the importance of awareness and regular ophthalmic monitoring. [1,3] [2] [1,2]

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References

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Figure Legends

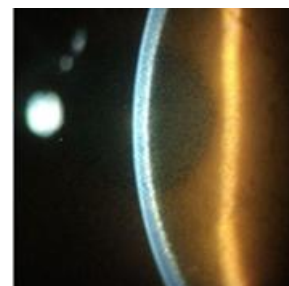


Fig. 1: Slit-lamp examination showed granular deposits in Descemet's membrane and corneal stroma.

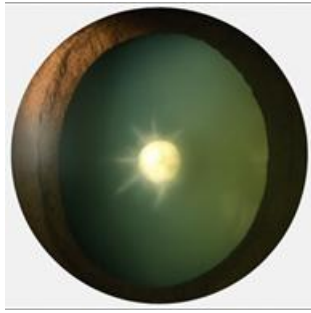


Fig. 2: Lens showed anterior subcapsular stellate opacities.

Fig. 3, 4: Corneal SD-OCT showed hyperreflective specks distributed throughout the stroma.

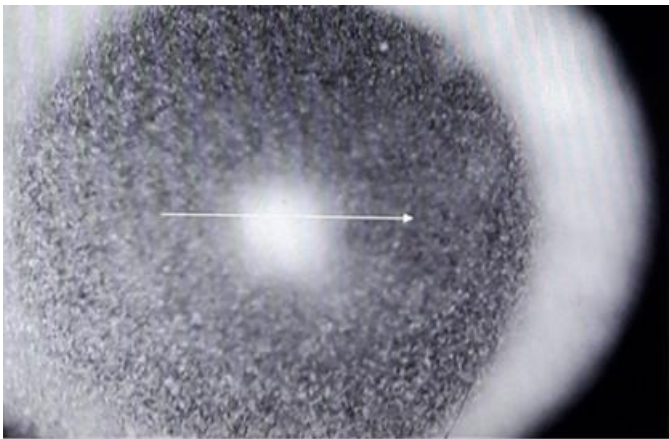


Fig. 3, 4: Corneal SD-OCT showed hyperreflective specks distributed throughout the stroma.



Fig. 5: Macular OCT showed ellipsoid zone loss inferotemporal to the disc.