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Ocular Adverse Effects of Psychotropic Drugs: A Clinical Study of 20 Cases (2023–2025)

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ABSTRACT

Purpose: To analyze the ocular adverse effects induced by psychotropic medications and describe their mechanisms according to drug classes.

Methods: A retrospective descriptive study involving 20 patients followed between January 2023 and June 2025 for ocular manifestations secondary to psychotropic therapy.

Results: The mean age was 49 years (18–72), with a female predominance (60%). Neuroleptics accounted for 40% of prescriptions, antidepressants for 30%, anxiolytics for 20%, and mood stabilizers for 10%. The most frequent ocular effects were dry eye (45%), accommodative disorders (25%), ocular hypertension or acute glaucoma (15%), corneal deposits (10%), and retinal changes (5%).

Conclusion: Psychotropic drugs may cause a wide range of ocular side effects. Early detection and collaboration between psychiatrists and ophthalmologists are essential to prevent visual complications.

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KEYWORDS:

Psychotropics; Adverse effects; Eye; Glaucoma; Dry eye; Vision..

INTRODUCTION

Psychotropic drugs are widely used in the management of chronic psychiatric disorders, but their systemic and ocular toxicity remains underrecognized [1,2]. These agents can affect the ocular surface, accommodation, intraocular pressure, and even the retina. The mechanisms differ among pharmacological classes: anticholinergic and neuroleptic agents induce accommodation disorders and dry eye; antidepressants can trigger mydriasis and acute glaucoma; phenothiazines lead to corneal deposits and retinal pigmentation; and mood stabilizers such as lithium may cause diplopia or nystagmus [3–5]. This study aims to describe the spectrum of ocular adverse effects related to psychotropic drugs and to emphasize the need for systematic ophthalmologic surveillance.

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PATIENTS AND METHODS

A retrospective descriptive study was conducted between January 2023 and June 2025 in the ophthalmology departments of Rabat and Laâyoune. Twenty patients referred for ocular symptoms following psychotropic medication were included. Inclusion criteria were use of psychotropics for at least three months, onset of new or worsening ocular signs, and complete medical records. Exclusion criteria were pre-existing ocular disease or concurrent exposure to other ocularly toxic drugs. Collected data included age, sex, duration of treatment, drug class, functional symptoms (blurred vision, photophobia, dryness, diplopia), and clinical findings (IOP, corneal status, fundus, OCT).

RESULTS

The mean age was 49 years (18–72); there were 12 women (60%) and 8 men (40%). The mean exposure duration was 18 months. Polytherapy with multiple psychotropics was observed in 20% of cases.

Distribution by pharmacological class:
- Neuroleptics (chlorpromazine, haloperidol, risperidone): 8 cases (40%) – corneal deposits, accommodative dysfunction, retinal pigmentation.
- Antidepressants (amitriptyline, fluoxetine, sertraline): 6 cases (30%) – dry eye, mydriasis, glaucoma exacerbation.
- Anxiolytics (benzodiazepines): 4 cases (20%) – blurred vision, transient diplopia.
- Mood stabilizers (lithium, valproate): 2 cases (10%) – tremor, nystagmus, photophobia.

Main ocular manifestations:
- Dry eye: 9 cases (45%)
- Accommodation disorders / blurred vision: 5 cases (25%)
- Ocular hypertension / acute glaucoma: 3 cases (15%)
- Corneal deposits: 2 cases (10%)
- Retinal pigmentation: 1 case (5%)

Reversibility:
- Complete recovery after treatment withdrawal: 70%
- Partial improvement: 20%
- Persistent sequelae (retinal damage): 10%.

DISCUSSION

Psychotropic medications represent a frequently overlooked cause of ocular toxicity. In our series, neuroleptics and antidepressants were most commonly implicated, reflecting their widespread and chronic use [3,4]. Our findings are consistent with those of Biousse and Newman [5] and Zengin et al. [6], who emphasized the importance of multidisciplinary vigilance.

Neuroleptics, particularly phenothiazines, demonstrate a marked corneal and retinal tropism. Corneal deposits occur due to accumulation of lipophilic metabolites within the anterior stroma. While often asymptomatic, these may cause photophobia or mild visual impairment over time. Retinal pigmentary changes associated with chlorpromazine and thioridazine are dose-dependent and may be irreversible, warranting long-term monitoring even after drug cessation [7].

Antidepressants expose patients to functional disturbances linked to anticholinergic and sympathomimetic activity, including mydriasis, dry eye, and occasionally acute angle-closure glaucoma. Such cases are particularly observed in hypermetropic patients with narrow iridocorneal angles [8]. Selective serotonin reuptake inhibitors (SSRIs), although considered safer, can still alter intraocular pressure regulation in glaucoma patients [9].

Anxiolytics such as benzodiazepines mainly cause transient visual symptoms—blurred vision, diplopia, photophobia—which typically resolve upon discontinuation [10]. Mood stabilizers (lithium, valproate) tend to produce neuro-ophthalmic effects—fine tremor, nystagmus, or diplopia—reflecting systemic neurotoxicity rather than direct ocular damage [11].

From a pathophysiological standpoint, several mechanisms contribute to psychotropic ocular toxicity: dopaminergic blockade and anticholinergic activity reducing lacrimal secretion, lipophilic accumulation within ocular tissues, dysregulation of pupillary tone and aqueous humor dynamics causing glaucoma, and oxidative stress with microcirculatory disturbance at the retinal level [12,13].

Clinically, these adverse effects can significantly affect visual function, especially in elderly or polymedicated patients. A coordinated approach involving psychiatrists, neurologists, and ophthalmologists is essential for early detection. Baseline and periodic eye examinations should include intraocular pressure measurement, tear film evaluation, and retinal imaging when indicated [14]. Implementing a standardized ophthalmic follow-up sheet for long-term psychotropic users could improve safety and prevent irreversible vision loss [15].

CONCLUSION

Ocular adverse effects of psychotropic drugs are diverse and often underestimated. They primarily involve the ocular surface, accommodation, and intraocular pressure. Early recognition and interdisciplinary management are crucial to avoid permanent damage. Systematic ophthalmologic screening is strongly recommended for high-risk patients, particularly those on long-term therapy or with pre-existing ocular conditions.

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