Case Report

Anaesthetic Challenges During Cataract Surgery in Patients on Multiple Chronic Psychotropic Medications: A Case Series

Sujata Rawlani[1], Radhika Krishnan[2], Jaichandran Vepary Venkatakrishnan[3], Maneck Nicholson[4]

[1]Consultant, Department of Anaesthesiology, Shantilal Shanghvi Eye Institute, Mumbai 400037, India [2]Faculty and Head, Public Health; Consultant, Anaesthesiology, Shantilal Shanghvi Eye Institute, Mumbai 400037, India, [3]Director, Department of Accreditation, Safety and Quality Assurance, and Senior Consultant, Anaesthesiology, Sankara Nethralaya, Chennai 600006, India, [4]Senior Faculty, Cataract and Refractive Surgery, Shantilal Shanghvi Eye Institute, Mumbai 400037, India

Abstract

Background: Patients on long-term psychotropic medication are often refused elective ophthalmic surgery on the assumption they will be uncooperative. When they do reach the operating room, anaesthesiologists meet unfamiliar drug interactions, exaggerated sedation, and the occasional need for unplanned conversion to total intravenous anaesthesia (TIVA).

Cases: Ten institutionalized women (mean age 58.1 ± 8.7 years; range 50–80) on stable antipsychotic, benzodiazepine, and SSRI regimens were scheduled for cataract surgery under peribulbar block with sedation. Three (30%) required intra-operative TIVA for agitation despite an adequate block; all three were on antipsychotic–clonazepam combinations. They stayed at Ramsay 5 for 2–3 hours, and one developed transient hypotension (MAP 58 mmHg). A fourth patient decompensated under the drapes with claustrophobia, managed with an elevated drape on an improvised frame. The remaining six, on antipsychotic monotherapy without clonazepam, recovered uneventfully in 30–45 minutes.

Discussion: Additive GABA-ergic depression from antipsychotic-benzodiazepine combinations, overlapping α-adrenergic blockade, and QTc prolongation are the central concerns. Continuing every psychotropic on the day of surgery without a structured drug review, adding alprazolam premedication to patients already on chronic clonazepam, and starting a regional block without a pre-formulated general-anaesthesia (GA) plan were the principal avoidable pitfalls identified in this series.

Conclusion: Documented preoperative psychiatric clearance, individualised drug optimisation, omission of additional benzodiazepine premedication in chronic benzodiazepine users, preoperative admission with planned overnight postoperative observation, and a GA pathway prepared in advance are essential before such patients are scheduled.

Address for correspondence:
Dr. Sujata Rawlani
Consultant, Department of Anaesthesia
Shantilal Shanghvi Eye Institute, Wadala,
Mumbai 400037, India
Mobile: +91 7506059766
Email: sujatarawlani@gmail.com

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Key words

Cataract surgery; peribulbar anaesthesia; psychotropic drugs; total intravenous anaesthesia; perioperative medication management

Introduction

Cataract is more prevalent, and more advanced, in patients with chronic mental illness. Two factors drive this: accelerated lens opacification with long-term phenothiazine use, and limited access to ophthalmic care.[1] Despite ranking among the safest surgical procedures, cataract surgery in this group is often refused at peripheral centres on the assumption that the patient will not cooperate. Delayed surgery in this population is associated with worsening dependency, increased fall risk, and progressive loss of self-care.[2]

The challenge for the ophthalmic anaesthesiologist differs from the rest of the operating list. Peribulbar block with light sedation, the default technique for cataract surgery, assumes a patient who can lie still, follow verbal cues, and tolerate the claustrophobic micro-environment under the drapes.[3] Chronic use of multiple psychotropic medications unsettles every one of those assumptions. Baseline sedation is unpredictable, and behaviour under the drapes like claustrophobia, restlessness, and abrupt withdrawal of cooperation is particularly hard to anticipate; standard intravenous adjuncts may produce exaggerated or prolonged effects.[4,5] When intra-operative cooperation fails, the team is forced to convert to general anaesthesia (GA), commonly delivered as total intravenous anaesthesia (TIVA) in this setting, sometimes without the preparation a scheduled general anaesthetic would normally command.

The Society for Perioperative Assessment and Quality Improvement (SPAQI) consensus statement is the most recent international guide to perioperative psychotropic management, but its uptake in Indian ophthalmic practice is uneven.[6] This report describes a cohort of ten patients in whom these issues converged. The emphasis is deliberately anaesthetic: the decision-making, the avoidable errors, and the lessons that emerged.

Description

Written informed consent for surgery and for the publication of de-identified clinical data was obtained from the legally authorised representative of the charitable trust providing institutional care, as these mentally challenged women lacked the capacity to consent for themselves; this is consistent with the Declaration of Helsinki and the Indian Council of Medical Research (ICMR) National Ethical Guidelines for Biomedical and Health Research. Ten institutionalised women (mean age 58.1 ± 8.7 years; range 50–80) residing at a charitable trust for destitute women with chronic mental illness were referred to the tertiary eye institute for cataract surgery as part of a community outreach programme. Psychiatric diagnoses included chronic schizophrenia (n=4), schizoaffective disorder (n=3), and unspecified psychotic disorder with intellectual disability (n=3).

All had been on stable regimens for more than two years, with monthly psychiatric review. Medications were a combination of atypical antipsychotics (olanzapine, quetiapine, risperidone, amisulpride), typical antipsychotics (haloperidol, trifluoperazine), the benzodiazepine (clonazepam), the SSRI escitalopram, and trihexyphenidyl for extrapyramidal prophylaxis. Comorbidities (hypertension in 5, type-2 diabetes in 3) were well controlled at the time of surgery.

A formal preoperative psychiatric consultation was not obtained, as all patients were under regular monthly psychiatric review; all medications were continued on the morning of surgery in line with consensus recommendations.6 The standard protocol comprised oral alprazolam 0.5 mg given two hours before surgery, intravenous midazolam 1 mg for anxiolysis, topical mydriatics in the preoperative bay, and a peribulbar block (3 mL of 2% lignocaine with 3 mL of 0.75% ropivacaine). Sedation was monitored on the Ramsay Sedation Scale (RSS). Five patients were operated on in the morning list and five in the afternoon list. All patients were admitted to hospital the evening before surgery and remained admitted overnight after surgery; transfer back to the trust the following day only after confirmation that there was no residual sedation, haemodynamic instability, or psychotropic-related adverse effect.

Intra-operative details of the four patients who deviated from the standard sedation pathway are enumerated in Table 1.

TABLE 1. Intra-operative details of the four patients who required deviation from standard sedation.

Patient	Age (years)	Psychotropic regimen	Intra-operative events and remarks
1	50	Haloperidol 0.25 mg + clonazepam 0.25 mg	Head movements after an apparently adequate block (RSS 3); converted to TIVA (fentanyl 1 μg/kg, propofol 1 mg/kg). RSS 5 sustained for >2 h post-operatively; supplemental oxygen required.
2	56	Amisulpride 25 mg + clonazepam 0.25 mg	Severe agitation under the drapes; converted to TIVA. Post-operative sedation persisted for 3 h; SpO_2 fell to 94% on room air.
3	65	Risperidone 2 mg + quetiapine 25 mg + clonazepam 0.5 mg	TIVA required. Transient hypotension (MAP 68 mmHg) attributed to additive α-adrenergic blockade; managed with a 250 mL crystalloid bolus.
4	55	Trifluoperazine 5 mg + escitalopram 5 mg + quetiapine 25 mg + clonazepam 0.5 mg	Peribulbar block administered and confirmed adequate. After draping, and before any surgical incision, the patient developed acute claustrophobia with head and trunk movement. The drape was removed; the head was then secured to the headrest with an elastic crepe strap (Figure 1A); the drape was re-applied and elevated on an improvised frame (Figure 1B). The surgical incision was made only after stabilisation, and microsurgery proceeded without further movement. In retrospect, this case should have been scheduled for general anaesthesia from the outset.

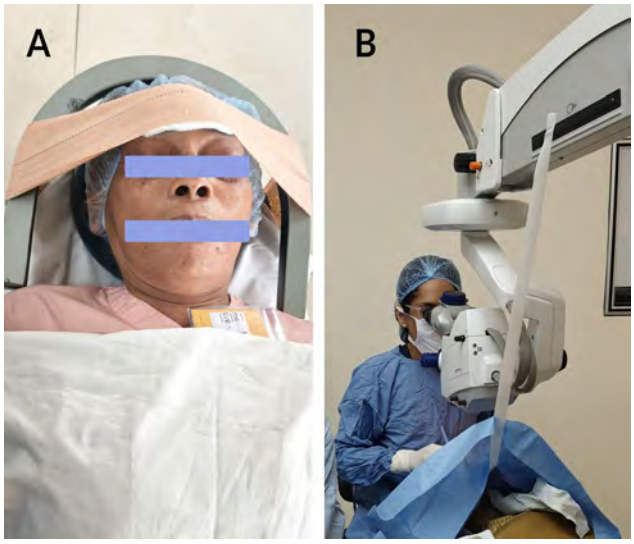

Figure 1: Adaptations used after the patient decompensated under the drape with acute claustrophobia, undertaken before the surgical incision and with no instrument in the eye (face redacted): (A) the head secured to the headrest with an elastic crepe strap to prevent further movement once the patient was re-draped; (B) the drape re-applied and elevated on an improvised frame to relieve the claustrophobic micro-environment while preserving the sterile field.

It was noticed that the afternoon-list patients had heavier baseline agitation than expected: by the time they reached theatre the morning alprazolam had worn off, and several required supplemental midazolam. The remaining six women, on antipsychotic monotherapy without clonazepam, completed surgery uneventfully and returned to baseline within 30–45 minutes. Every TIVA conversion, and every episode of prolonged sedation, occurred in a patient on a combined antipsychotic–clonazepam regimen. In these three conversions, TIVA was begun in situ once intra-operative cooperation failed: a single intravenous bolus of propofol 1 mg/kg with fentanyl 1 μg/kg was administered, the native airway was maintained with spontaneous ventilation on supplemental oxygen via a dual nasal prong, and ventilation was monitored continuously with side-stream end-tidal carbon dioxide ($etCO_2$), alongside SpO_2, electrocardiography, and non-invasive blood pressure. Drug-specific perioperative implications are summarised in Table 2.

TABLE 2. Psychotropic medications relevant to this cohort: anaesthetic interactions and perioperative recommendations.

Drug	Anaesthetic interaction	Perioperative recommendation
Clonazepam (and other chronic BZDs)	Reduces MAC ~30%; t½ 30-40 h; additive with propofol and opioids	Continue; consider 25–50% dose reduction 24–72 h preoperatively in agreement with treating psychiatrist; do NOT add further benzodiazepine premedication (oral alprazolam or intravenous midazolam) in chronic users.
Olanzapine	Potentiates BZD effect (FDA boxed warning against IM co-administration); mild QTc prolongation	Continue; avoid additional IM BZD; ECG if other QT-prolonging drugs are used

Drug	Anaesthetic interaction	Perioperative recommendation
Quetiapine	Prolonged post-anaesthetic sedation; α-blockade with hypotension	Continue; extended recovery monitoring; IV fluids ready
Haloperidol	Qtc prolongation (≈16 ms with IV route); α-blockade	Continue; mandatory preoperative ECG; avoid additive QT-prolonging agents
Risperidone	Orthostatic hypotension; minimal respiratory depression	Continue; slow position changes; monitor BP
Trifluoperazine & other phenothiazines	Sedation, α-blockade, QTc; accelerate lens opacification	Continue; monitor BP and ECG
SSRI (escitalopram)	Serotonin syndrome with pethidine, tramadol, methylene blue, linezolid; ~36% increased surgical bleeding	Continue; use fentanyl; avoid serotonergic opioids
Clozapine	Profound hypotension, sialorrhoea, ileus, rare myocarditis	Hold 12-24 h before elective surgery; restart promptly post-op
Lithium	Narrow therapeutic index; toxicity with volume contraction; potentiates non-depolarising NMBs	Omit morning dose; ensure euvolaemia; check level and electrolytes
MAOIs	Hypertensive crisis with indirect sympathomimetics; serotonin syndrome with pethidine and tramadol	Ideally taper 2 weeks before elective surgery; if continued, use an MAOI-safe technique
Trihexyphenidyl (anticholinergic)	Additive anticholinergic delirium with atropine or glycopyrrolate; xerostomia	Continue; minimise additional anticholinergics

BZD, benzodiazepine; MAC, minimum alveolar concentration; QTc, corrected QT interval; NMB, neuromuscular blocker.

Discussion

Several patients had been refused surgery at peripheral centres where anaesthesia backup was not available, and were referred to a tertiary unit with GA capability. Such referral is appropriate; these patients require management at centres equipped for GA and overnight postoperative backup monitoring facility.

Current consensus, summarised by SPAQI6 and applicable across peribulbar, TIVA, and GA for cataract surgery, supports continuation of antipsychotics, selective serotonin reuptake inhibitors (SSRIs), and chronic benzodiazepines on the morning of surgery to avoid psychiatric relapse and withdrawal.[5–7] The decision to hold, taper, or continue must be drug-specific (Table 2), made in advance, written down, and agreed with the treating psychiatrist: abrupt withdrawal of SSRIs, antipsychotics, or chronic benzodiazepines can precipitate relapse, withdrawal syndromes, or rebound anxiety in the immediate perioperative window, whereas the important exceptions, clozapine, monoamine oxidase inhibitors, and lithium, carry well-described risks with uncritical continuation and have their own specific recommendations (Table 2).[6,8] For chronic high-dose benzodiazepine users, as in the three converted patients in this series, a planned 24–72 hour dose reduction agreed with the treating psychiatrist may blunt the intra-operative additive effect. Because every such patient is a potential candidate for conversion to GA, a complete pre-anaesthetic check-up (PAC) is essential and should extend beyond psychiatric review including baseline blood investigations (complete blood count, renal and liver function, serum electrolytes, and blood glucose, with serum lithium where relevant) and a 12-lead ECG are particularly important given the QTc-prolonging and metabolic effects of these drugs, and any abnormal finding should prompt targeted specialist consultation. None of these decisions can be made safely from theatre; a generic "fit for surgery" certificate is no substitute for a documented psychiatric review and a structured PAC.

The principal anaesthetic concerns, additive GABA-ergic depression from antipsychotic–benzodiazepine combinations, overlapping α-adrenergic blockade with orthostatic hypotension, QTc prolongation, a lowered seizure threshold, increased perioperative bleeding with SSRIs, and the risk of serotonin syndrome with serotonergic opioids are agent-specific and are summarised in Table 2.[4–7] Of these, the additive sedative effect of antipsychotic–benzodiazepine combinations accounts for most of the prolonged RSS-5 sedation observed in this cohort, and α-adrenergic blockade is the most plausible explanation for the haemodynamic dip in Patient 3.

Conversion from peribulbar to intravenous anaesthesia in a patient on multiple psychotropic medications is not a routine top-up. Standard induction doses can produce loss of airway, apnoea, hypotension, and prolonged emergence, all under the surgical drape, with the surgeon operating at the eye.

The safer approach is to prepare for GA from the outset: documented airway examination, fasting status, high-risk anaesthesia consent, a GA-capable theatre with a dedicated infusion pump, fractionated propofol (0.5 mg/kg increments), reduced opioid (fentanyl 0.5 μg/kg), end-tidal capnography, a suction-ready airway trolley positioned at the head end, and an anaesthesiologist whose sole role is airway management. Where these are not in place, the patient is better deferred to an equipped centre.

Several lessons emerge from this series. First, the benzodiazepine load was inadvertently increased by adding oral alprazolam and intravenous midazolam to patients already on chronic clonazepam; chronic benzodiazepine users should not receive any additional benzodiazepine premedication, and anxiolysis, if required, should be titrated by the anaesthesiologist under monitoring. Second, a trial draping was not performed in the preoperative clinic; such a step would likely have predicted the claustrophobic decompensation seen in Patient 4 and prompted scheduling for GA from the outset. Third, a structured preoperative psychiatric liaison was not formally documented; such review would have permitted a planned 25–50% dose reduction of clonazepam 24–72 h before surgery in agreement with the treating psychiatrist. Fourth, the intravenous anaesthesia setup was reactive rather than pre-positioned at the head end as part of a full GA-ready pathway. Whether the additive risk lies at any antipsychotic–benzodiazepine pairing or specifically with chronic clonazepam use cannot be determined from a series of this size.

Chronic use of multiple psychotropic medications does not contraindicate cataract surgery; it mandates a full GA pathway from the preoperative period through to overnight postoperative observation. With documented psychiatric clearance, individualised drug modification, omission of additional benzodiazepine premedication in chronic benzodiazepine users, preoperative admission with overnight postoperative monitoring for cardiovascular and sedation-related instability, and a GA-capable theatre prepared in advance, this group can be operated safely in a tertiary setting.

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Conflicts of interest

There are no conflicts of interest.

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