



## **CONSIDERATION IN GENERAL ANESTHESIA TOWARDS PATIENT WITH SCHIZOPHRENIA TREATMENT: A CASE REPORT OF PSYCHIATRY-ANESTHESIOLOGY APPROACH**

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### **ABSTRAK**

Manajemen anestesi pada pasien skizofrenia dengan terapi antipsikotik jangka panjang menjadi tantangan klinis karena risiko interaksi obat dan komplikasi perioperatif, seperti hipotensi, aritmia, dan delirium pascaoperasi. Penelitian ini bertujuan mendeskripsikan tata laksana anestesi perioperatif pada pasien skizofrenia yang menjalani operasi elektif. Metode yang digunakan berupa laporan kasus pada pasien perempuan usia 43 tahun dengan kanker payudara kiri dan riwayat *skizofrenia undifferentiated* yang mendapat terapi *fluphenazine* dan *trifluoperazine* jangka panjang. Penatalaksanaan meliputi evaluasi praoperatif, anestesi intraoperatif, dan pemantauan pascaoperatif. Pasien menjalani anestesi umum menggunakan propofol, fentanyl, dan atracurium dengan pemantauan hemodinamik ketat. Hasil menunjukkan pemeriksaan laboratorium, EKG, dan ekokardiografi dalam batas normal, dengan komplikasi intraoperatif berupa hipotensi saat induksi dan takikardia ringan yang dapat dikendalikan tanpa komplikasi serius. Pascaoperasi ditemukan agitasi ringan, hipotensi postural, dan menggigil tanpa delirium maupun gangguan kardiovaskular berat. Temuan ini menunjukkan bahwa evaluasi perioperatif yang komprehensif dan strategi anestesi terindividualisasi penting untuk menjaga stabilitas pasien skizofrenia selama tindakan pembedahan.

**Kata kunci:** *Anestesi, Skizofrenia, Manajemen Perioperatif, Interaksi Obat*

### **ABSTRACT**

Anesthetic management in patients with schizophrenia receiving long-term antipsychotic therapy presents a clinical challenge due to the risk of drug interactions and perioperative complications, including hypotension, arrhythmias, and postoperative delirium. This study aimed to describe perioperative anesthetic management in a schizophrenic patient undergoing elective surgery. The study used a case report approach involving a 43-year-old female patient with left breast cancer and a history of undifferentiated schizophrenia treated with long-term fluphenazine and trifluoperazine therapy. Management included preoperative evaluation, intraoperative anesthesia planning, and postoperative monitoring. The patient underwent



general anesthesia using propofol, fentanyl, and atracurium with close hemodynamic monitoring. The results showed that laboratory tests, ECG, and echocardiography were within normal limits, although intraoperative hypotension during induction and mild tachycardia during surgery were observed and successfully controlled without serious complications. Postoperative findings included mild agitation, postural hypotension, and shivering without delirium or severe cardiovascular disturbances. These findings indicate that comprehensive perioperative evaluation and individualized anesthetic strategies are essential to maintain patient stability and ensure surgical safety in schizophrenic patients receiving long-term antipsychotic therapy.

**Keywords:** *Anesthesia, Schizophrenia, Perioperative Management, Drug Interaction*

## INTRODUCTION

Schizophrenia is a severe and chronic psychiatric disorder that affects multiple domains of human functioning, including cognition, perception, emotional regulation, and social behavior. The disorder is recognized as one of the major causes of long-term disability worldwide because it frequently leads to impaired occupational performance, reduced interpersonal interaction, and diminished quality of life (Lorenz et al., 2024). Clinically, schizophrenia demonstrates heterogeneous manifestations such as hallucinations, delusions, disorganized thinking, impaired insight, cognitive dysfunction, and affective disturbances, with symptom severity varying considerably among individuals (Faden & Citrome, 2023; Oatu et al., 2026). In many patients, the chronic and recurrent nature of the illness contributes to long-term psychosocial dependency and repeated healthcare utilization. These conditions not only influence psychiatric well-being but also affect the patient's physical resilience when exposed to stressful medical interventions, including surgery and anesthesia. Consequently, schizophrenia should not merely be viewed as a psychiatric disorder, but also as a complex clinical condition requiring comprehensive multidisciplinary management.

Beyond psychiatric manifestations, schizophrenia is increasingly understood as a systemic disorder associated with neurobiological, metabolic, inflammatory, and autonomic alterations that may complicate medical and surgical management. Dysregulation of neurotransmitter systems, chronic stress activation, and altered autonomic nervous system responses may influence cardiovascular stability and physiological adaptation during perioperative care. These concerns become particularly relevant because surgical stress, anesthetic exposure, pain, and environmental changes in the operating room may precipitate both physiological instability and psychiatric decompensation simultaneously. Patients with schizophrenia may exhibit increased vulnerability to perioperative confusion, agitation, or relapse when exposed to unfamiliar environments and perioperative stressors. Furthermore, difficulties in communication, impaired insight, and reduced cooperation may complicate preoperative assessment and postoperative recovery processes. Therefore, perioperative management in schizophrenic patients requires a multidisciplinary approach that carefully balances psychiatric stability, anesthetic safety, surgical outcomes, and psychological adaptation throughout the perioperative period.

Long-term antipsychotic therapy remains the cornerstone of schizophrenia management and has substantially improved symptom control, functional recovery, and relapse prevention over recent decades. Advances in psychopharmacology have introduced first- and second-generation antipsychotics with diverse receptor-binding profiles and varying adverse-effect characteristics (Stępnicki et al., 2023; Perrotta et al., 2025). Although these medications are



effective in reducing psychotic symptoms and stabilizing behavior, chronic exposure may produce cardiovascular, neurological, endocrine, and metabolic complications that significantly influence perioperative responses. Common concerns include QT interval prolongation, orthostatic hypotension, autonomic dysfunction, excessive sedation, extrapyramidal symptoms, impaired thermoregulation, and metabolic syndrome, all of which may interact with anesthetic agents during surgery (Dalamagka, 2024; Jung & Park, 2025). In addition, prolonged psychotropic therapy may alter pain perception, stress responses, and neurochemical regulation, thereby increasing sensitivity to anesthetic medications compared with patients without psychiatric disorders. The cumulative physiological burden associated with chronic antipsychotic exposure further increases the complexity of anesthetic planning and intraoperative monitoring. Consequently, anesthesiologists must evaluate not only the psychiatric diagnosis itself but also the long-term systemic effects of antipsychotic therapy when determining perioperative management strategies.

General anesthesia is frequently utilized in major surgical procedures to facilitate unconsciousness, analgesia, amnesia, and muscle relaxation. However, anesthetic agents substantially affect the cardiovascular and central nervous systems and may interact with antipsychotic medications through synergistic sedative effects, hemodynamic instability, altered neurotransmitter regulation, and prolonged recovery responses (Smith et al., 2023). Several perioperative studies have emphasized the importance of individualized anesthetic planning in psychiatric populations, particularly regarding airway management, cardiovascular monitoring, drug titration, and postoperative recovery observation (Martinez-Baladejo et al., 2023). Nevertheless, most existing literature discusses psychiatric patients as a broad and heterogeneous population without specifically focusing on patients with schizophrenia receiving long-term antipsychotic therapy. In many reports, discussions remain limited to pharmacological interactions alone, while detailed explanations regarding intraoperative hemodynamic changes, anesthetic titration, postoperative psychiatric stability, emergence characteristics, and recovery patterns are still insufficient. Furthermore, perioperative psychiatric assessment is often underrepresented in anesthetic literature despite its importance in predicting postoperative adaptation and behavioral stability. This limitation indicates that anesthetic management in schizophrenia requires further exploration within a more specific, integrated, and clinically comprehensive framework.

From a theoretical perspective, perioperative management in schizophrenia can be understood through the concept of individualized anesthetic care, which emphasizes patient-specific physiological and psychological considerations in anesthetic decision-making. Within this framework, anesthetic planning must simultaneously account for chronic psychotropic exposure, altered autonomic regulation, perioperative stress responses, and psychiatric vulnerability. Patients with schizophrenia may demonstrate unpredictable cardiovascular responses because antipsychotic medications can influence adrenergic activity, vascular tone, cardiac conduction, and autonomic reflex mechanisms. In addition, perioperative stress may exacerbate psychiatric symptoms through dysregulation of neuroendocrine pathways and inflammatory responses, thereby increasing the risk of postoperative agitation, confusion, or psychiatric relapse. Effective perioperative management therefore requires not only pharmacological optimization but also careful monitoring of mental status, communication strategies, environmental adaptation, and postoperative psychological support. These considerations reinforce the importance of integrating psychiatric evaluation into perioperative anesthetic protocols for patients with chronic mental illness. The concept of individualized



anesthetic care thus becomes highly relevant in improving perioperative safety and maintaining both physiological and psychiatric stability in schizophrenic patients undergoing surgery.

Recent evidence has highlighted the increasing importance of integrated perioperative strategies for patients with psychiatric disorders undergoing surgery (Sun et al., 2024; Kamar et al., 2025). Although previous studies have discussed the risk of cardiovascular complications associated with antipsychotic therapy, comparative analyses regarding anesthetic decision-making, hemodynamic monitoring, and postoperative psychiatric outcomes in schizophrenia remain limited. This condition reflects a significant research gap concerning comprehensive perioperative management that simultaneously considers psychiatric history, chronic antipsychotic exposure, anesthetic agent selection, intraoperative physiological responses, and postoperative psychiatric stability within a unified clinical perspective. Moreover, case-based evidence remains highly valuable because perioperative responses in schizophrenia are often individualized and difficult to generalize using broader psychiatric cohorts. Variability in medication regimens, symptom severity, duration of illness, surgical stress levels, and comorbid conditions further emphasizes the need for detailed clinical documentation to guide evidence-based anesthetic practice. Additional reporting of perioperative experiences is therefore essential to strengthen clinical recommendations and improve perioperative outcomes in this vulnerable population.

Therefore, this study aims to describe perioperative anesthetic management in a patient with schizophrenia undergoing elective surgery while receiving long-term antipsychotic therapy. The novelty of this report lies in its comprehensive analysis integrating psychiatric background, chronic antipsychotic exposure, anesthetic planning, intraoperative hemodynamic monitoring, postoperative recovery, and psychiatric stability into a single perioperative framework. In addition to providing practical considerations for anesthesiologists and perioperative teams, this study also contributes theoretically by strengthening the concept of individualized anesthetic management in patients with chronic psychiatric disorders. Through detailed perioperative evaluation, this report is expected to provide clinically relevant insights regarding the interaction between schizophrenia, long-term psychotropic therapy, and anesthetic management during surgery. The findings are also anticipated to support safer perioperative decision-making, minimize anesthesia-related complications, optimize postoperative recovery, and improve the overall quality of perioperative care for schizophrenic patients undergoing surgical procedures.

## RESEARCH METHODS

This study employed a case report design with a descriptive-analytical approach to examine perioperative management in a patient with schizophrenia undergoing surgery under general anesthesia. Data were retrospectively obtained from medical records, including clinical identity, medical and psychiatric history, physical condition, and supporting examinations. The research procedure was structured into three stages: preoperative evaluation, intraoperative monitoring, and postoperative observation. Preoperative assessment focused on communication ability, level of cooperation, and history of antipsychotic use, while intraoperative monitoring included anesthetic administration and physiological responses. The main clinical parameters observed included hemodynamic stability (blood pressure, heart rate), oxygen saturation, level of consciousness, and behavioral responses related to psychiatric conditions.

The instruments consisted of systematically documented medical records compiled by a multidisciplinary team involving psychiatry, anesthesiology, and surgery. Data analysis was

conducted using a qualitative descriptive approach by comparing clinical findings with relevant literature to identify key anesthetic considerations. No inferential statistical analysis was applied due to the single-case focus. Additionally, postoperative evaluation emphasized clinical recovery indicators, including hemodynamic normalization, respiratory status, and the absence of acute psychiatric relapse or adverse drug reactions. Ethical principles were maintained by ensuring patient confidentiality and confirming that all procedures were conducted with informed consent from the patient and family.

## RESULT AND DISCUSSION

### Result

The patient's clinical characteristics and perioperative management are presented in Table 1 as the basis for case analysis. This presentation integrates psychiatric condition, ongoing therapy, and the anesthetic approach applied during the procedure. These elements are essential to demonstrate the relationship between schizophrenia history and clinical decision-making. Therefore, Table 1 provides an initial overview relevant to the focus of this study.

**Table 1. Clinical Characteristics and Perioperative Management**

No	Variable	Description
1	Age and Sex	Female, 43 years
2	Primary Diagnosis	Left breast cancer (T4bN1M0)
3	Psychiatric History	Undifferentiated schizophrenia
4	Antipsychotic Therapy	Fluphenazine injection, trifluoperazine oral
5	Preoperative Status	Cooperative, mild anxiety, decreased cognitive response
6	Investigations	Within normal limits (laboratory, ECG, echocardiography)
7	Premedication	Dexamethasone, diphenhydramine
8	Induction Agents	Propofol, fentanyl, atracurium
9	Anesthetic Technique	General anesthesia with intubation
10	Intraoperative Complications	Hypotension during induction, tachycardia during surgery
11	Postoperative Management	Ondansetron, morphine, paracetamol
12	Postoperative Findings	Mild agitation, postural hypotension, shivering

Based on Table 1, the patient's perioperative condition showed overall stability with manageable physiological responses during the procedure. These findings indicate that long-term antipsychotic therapy may influence anesthetic responses. In addition, appropriate management contributed to minimizing the risk of complications. Therefore, these results highlight the importance of individualized anesthetic planning based on the patient's clinical condition.

The observed hemodynamic responses during the perioperative period may be related to the long-term use of antipsychotic medications, particularly phenothiazine derivatives, which are known to affect autonomic regulation and vascular tone during anesthesia. These pharmacological effects can increase the risk of hypotension and cardiovascular instability during anesthetic induction and surgical procedures. Despite these potential risks, the patient's preoperative investigations, including laboratory examination and cardiac evaluation, were within normal limits, supporting the safety of the planned anesthetic approach. In addition,



appropriate anesthetic management and continuous perioperative monitoring contributed to maintaining overall hemodynamic stability and minimizing the occurrence of severe complications throughout the procedure.

## Discussion

This discussion highlights that long-term antipsychotic therapy has substantial clinical implications for perioperative anesthetic management, particularly in patients with schizophrenia undergoing surgery under general anesthesia. Antipsychotic agents exert their therapeutic effects through modulation of dopamine, serotonin, histamine, and adrenergic receptors, thereby influencing not only psychiatric manifestations but also cardiovascular and autonomic functions (Meyer, 2025). Chronic alterations in these neurotransmitter pathways may contribute to impaired autonomic balance, abnormal vascular tone, and reduced physiological adaptability during perioperative stress. In the present case, chronic administration of fluphenazine and trifluoperazine may have contributed to altered vascular responsiveness and autonomic instability during anesthesia. The occurrence of transient hypotension during induction and tachycardia intraoperatively supports the hypothesis that long-term phenothiazine exposure can potentiate hemodynamic fluctuations during perioperative stress. Previous studies have similarly demonstrated that antipsychotic medications are associated with impaired autonomic regulation, increased cardiovascular variability, and altered sympathetic responses during surgical procedures. Consequently, anesthesiologists should recognize that psychotropic medications may directly influence anesthetic pharmacodynamics and physiological responses throughout the perioperative period.

The cardiovascular instability observed in schizophrenic patients receiving long-term antipsychotic therapy may also be explained through the pharmacological properties of phenothiazine derivatives. Phenothiazine antipsychotics possess alpha-adrenergic blocking effects that can impair compensatory vasoconstriction during anesthetic induction and contribute to perioperative hypotension. In addition, anticholinergic and sedative properties associated with these medications may influence heart rate variability and autonomic responsiveness during surgical stimulation. During anesthesia, these effects may become more pronounced because anesthetic agents themselves can suppress sympathetic activity and reduce systemic vascular resistance. The coexistence of psychotropic-induced autonomic dysfunction and anesthetic-induced cardiovascular depression therefore creates a higher risk of intraoperative hemodynamic instability. This interaction emphasizes the importance of understanding psychopharmacological mechanisms when planning anesthetic management in psychiatric populations. Careful anticipation of cardiovascular fluctuations is therefore necessary to reduce perioperative complications and maintain hemodynamic stability during surgery.

Perioperative management in patients with schizophrenia requires a multidisciplinary and individualized approach involving anesthesiologists, psychiatrists, surgeons, and perioperative nursing teams. Preoperative evaluation should not be limited to routine physical examination, but should also assess psychiatric stability, communication ability, cognitive function, medication adherence, and previous psychotropic exposure (Harbell et al., 2021). In many psychiatric patients, impaired insight and reduced communication capacity may complicate perioperative assessment and increase the risk of misunderstanding regarding surgical procedures or postoperative instructions. In this case, perioperative stability was achieved through adaptive clinical decision-making, careful anesthetic preparation, and



effective interdisciplinary coordination. The patient remained cooperative despite mild anxiety and decreased cognitive response, allowing perioperative procedures to be conducted safely. This finding supports the report by Harbell et al. (2021), who emphasized that integrated psychiatric and anesthetic assessment contributes significantly to reducing perioperative complications in psychiatric patients. Therefore, combining psychological evaluation with physiological assessment is essential to optimize perioperative outcomes and maintain patient safety.

A major clinical challenge in psychiatric perioperative care concerns whether antipsychotic medications should be continued or temporarily discontinued before surgery. Current evidence suggests that clinicians must balance the risk of psychiatric relapse against the potential for perioperative cardiovascular and autonomic complications (Correll et al., 2025; Sertöz et al., 2025). Continuing antipsychotic therapy may preserve psychiatric stability but simultaneously increase the risk of hypotension, arrhythmia, sedation, and autonomic dysregulation during anesthesia. Conversely, abrupt discontinuation may precipitate psychotic relapse, agitation, anxiety, or withdrawal-related behavioral disturbances that complicate perioperative management. In the present case, short-term discontinuation followed by early postoperative reintroduction of antipsychotic therapy did not result in acute psychotic relapse or severe behavioral disturbances. This finding is consistent with Correll et al. (2025), who reported that brief interruption of antipsychotic treatment may be tolerated in selected patients under close monitoring. However, other studies have demonstrated that prolonged discontinuation may increase the risk of psychotic exacerbation, agitation, and postoperative delirium, particularly in patients with chronic schizophrenia. Therefore, perioperative antipsychotic management should be individualized according to drug pharmacokinetics, receptor profile, duration of treatment, psychiatric history, and overall clinical condition (Kumar et al., 2021).

From an anesthetic perspective, the selection and titration of anesthetic agents must consider potential pharmacological interactions with antipsychotic medications as well as the patient's altered physiological responses. General anesthetic agents such as propofol, opioids, and neuromuscular blockers can significantly affect cardiovascular stability, particularly in patients with impaired autonomic regulation (Masui et al., 2025; Cavaliere et al., 2025). In this case, despite the occurrence of hypotension and tachycardia, perioperative hemodynamic changes were effectively controlled through continuous monitoring and prompt anesthetic adjustment. Appropriate fluid management, gradual anesthetic induction, and close observation of cardiovascular parameters were important components in maintaining intraoperative stability. This observation is consistent with Masui et al. (2025), who suggested that perioperative stability depends more on vigilant monitoring and individualized anesthetic titration than on the specific anesthetic regimen itself. Moreover, Shahimi et al. (2022) reported that patients with severe mental disorders frequently exhibit greater blood pressure variability and autonomic dysregulation, which may complicate anesthetic management. These findings reinforce the importance of continuous cardiovascular monitoring and proactive intraoperative management strategies in psychiatric populations undergoing surgery.

Another important consideration in perioperative anesthetic care involves postoperative recovery and adaptation in patients with chronic psychiatric disorders. Patients with schizophrenia often demonstrate altered stress responses, impaired emotional regulation, and abnormal pain perception, all of which may influence postoperative recovery quality. Postoperative findings in this case, including mild agitation, postural hypotension, and



shivering, illustrate the complex interaction between surgical stress responses, anesthetic exposure, and chronic antipsychotic effects. Patients with severe mental illness are known to exhibit altered pain perception, impaired stress adaptation, and increased physiological vulnerability during postoperative recovery (Onwumere et al., 2022). The postoperative agitation observed in this patient may reflect transient neurochemical imbalance associated with anesthetic recovery and psychotropic modulation. Similarly, postural hypotension may be related to residual autonomic effects of phenothiazine antipsychotics combined with perioperative fluid shifts and anesthetic-induced vasodilation. These findings are consistent with Onwumere et al. (2022), who reported higher rates of postoperative instability and recovery disturbances among psychiatric patients compared with the general population.

Clinically, these postoperative findings indicate that recovery management should incorporate both physical and psychiatric monitoring simultaneously. Observation should include evaluation of mental status, cardiovascular stability, respiratory adaptation, pain control, orientation, and potential medication-related complications. Early postoperative communication and environmental reassurance are also important to reduce anxiety, confusion, and behavioral disturbances during recovery. In addition, gradual mobilization and careful hemodynamic monitoring may help minimize complications associated with autonomic dysfunction and postural instability. Clinicians should remain aware of additional postoperative risks, including gastrointestinal dysfunction, delayed recovery, urinary retention, and prolonged sedation, even if these complications were not observed in the present case (Li et al., 2022). These considerations demonstrate that postoperative care in schizophrenic patients extends beyond routine surgical observation and requires integrated biopsychosocial management. Therefore, postoperative monitoring protocols should be adapted to address the unique physiological and psychological vulnerabilities associated with chronic psychiatric illness.

Overall, this discussion emphasizes that perioperative anesthetic management in patients with schizophrenia remains a complex clinical challenge requiring integration of pharmacological, psychiatric, and anesthetic considerations within a single treatment framework. Although several previous studies have independently examined psychiatric pharmacotherapy or anesthetic complications, relatively few reports have demonstrated the direct clinical relationship between antipsychotic pharmacodynamics and perioperative anesthetic responses in a real-world surgical setting. The novelty of this case lies in its demonstration of how chronic antipsychotic exposure may contribute to intraoperative hemodynamic variability and postoperative physiological disturbances while still allowing favorable perioperative outcomes through individualized management. These findings reinforce the importance of multidisciplinary collaboration, comprehensive preoperative assessment, individualized anesthetic planning, careful intraoperative monitoring, and structured postoperative observation to optimize patient safety and clinical outcomes. In addition, this report strengthens the concept that successful anesthetic management in psychiatric patients depends not only on technical anesthetic procedures but also on understanding the broader physiological and psychological impact of chronic mental illness and long-term psychotropic exposure. Future studies involving larger patient populations are necessary to establish more specific perioperative guidelines for schizophrenia patients undergoing surgery under general anesthesia.



## CONCLUSION

Schizophrenia remains a complex chronic psychiatric disorder that requires continuous multidisciplinary management, particularly when patients undergo surgical procedures under general anesthesia. This study demonstrates that perioperative care in schizophrenic patients involves more than the administration of anesthetic agents because anesthetic management must also consider psychiatric stability, long-term antipsychotic exposure, and physiological adaptation during surgery. The findings reveal that appropriate perioperative evaluation of antipsychotic therapy, including temporary discontinuation when clinically indicated and careful postoperative reintroduction, can maintain psychiatric stability without precipitating symptom relapse. In addition, individualized anesthetic planning supported by continuous intraoperative monitoring was effective in controlling hemodynamic fluctuations and minimizing perioperative complications. From a theoretical perspective, this study strengthens the concept of integrated perioperative management, which emphasizes that anesthetic safety in psychiatric patients is influenced by the interaction between neuropharmacological mechanisms, autonomic responses, and perioperative physiological adaptation. Thus, perioperative management in schizophrenia should be approached through a comprehensive framework that integrates psychiatric and anesthetic considerations simultaneously.

The primary contribution of this study lies in its integrative clinical analysis connecting pharmacological mechanisms, psychiatric conditions, anesthetic strategies, and perioperative responses within a single case framework. Clinically, the findings emphasize the importance of multidisciplinary collaboration involving anesthesiologists, psychiatrists, surgeons, and perioperative nurses to optimize patient safety and surgical outcomes. Careful preoperative assessment, individualized anesthetic selection, and vigilant postoperative monitoring were shown to play essential roles in maintaining both hemodynamic and psychological stability throughout the perioperative period. In addition, this study contributes theoretically by reinforcing the importance of patient-centered anesthetic approaches in chronic psychiatric disorders, particularly through individualized decision-making based on psychiatric history, medication exposure, and intraoperative physiological responses. Therefore, this report provides practical insight for perioperative teams while also strengthening clinical evidence regarding safe and adaptive anesthetic strategies for patients with schizophrenia receiving long-term antipsychotic therapy.

## REFERENCES

- Becerra, D., Calixto, A., & Orio, P. (2023). The Conscious Nematode: Exploring Hallmarks of Minimal Phenomenal Consciousness in *Caenorhabditis Elegans*. *International Journal of Psychological Research*, 16(2), 87. <https://doi.org/10.21500/20112084.6487>
- Cavaliere, F., Allegri, M., Apan, A., Brazzi, L., Carassiti, M., Cohen, E., ... & Weber, F. (2025). A year in review in *Minerva Anestesiologica* 2024: anesthesia, analgesia, and perioperative medicine. *Minerva anestesiologica*, 91(3), 231-243. <https://doi.org/10.23736/S0375-9393.25.19034-2>
- Correll, C. U., Rubio, J. M., & Kane, J. M. (2025). Benefits and risks of antipsychotic discontinuation in people with first and multi-episode psychotic disorders or with schizophrenia: why, when, how and in whom?. *Schizophrenia*, 11(1), 151. <https://doi.org/10.1038/s41537-025-00700-3>
- Dalamagka, M. I. (2024). *Antipsychotics and anesthetic drugs*. *Magna Scientia Advanced Research and Reviews*, 12(1), 1–4. <https://doi.org/10.30574/msarr.2024.12.1.0141>



- Faden, J., & Citrome, L. (2023). Schizophrenia: one name, many different manifestations. *Medical Clinics*, 107(1), 61-72.  
<https://doi.org/10.1016/j.mcna.2022.05.005>
- Harbell, M. W., Dumitrascu, C., Bettini, L., Yu, S., Thiele, C. M., & Koyyalamudi, V. (2021). Anesthetic considerations for patients on psychotropic drug therapies. *Neurology International*, 13(4), 640-658. <https://doi.org/10.3390/neurolint13040062>
- Jung, S. M., & Park, S. J. (2025). Anesthetic implications of psychotropic medications: a narrative review. *Journal of Yeungnam Medical Science*, 42, 70.  
<https://doi.org/10.12701/jyms.2025.42.70>
- Kamar, A. A. M., Mavroudis, I., Ciobica, A. S., Tomița, D., & Pădurariu, M. (2025). General Anesthesia in Psychiatric Patients Undergoing Orthopedic Surgery: A Mechanistic Narrative Review “When the Brain Is Unstable, Keep It Awake”. *Reports*, 8(4), 263.  
<https://doi.org/10.3390/reports8040263>
- Kumar, C. M., Palte, H. D., Chua, A. W., Sinha, R., Shah, S. B., Imani, F., & Jalali, Z. M. (2021). Anesthesia considerations for cataract surgery in patients with schizophrenia: A narrative review. *Anesthesiology and pain medicine*, 11(2), e113750.  
<https://doi.org/10.5812/aapm.113750>
- Li, M., Guo, P., Zeng, J., Li, C., Ji, Q., Zhao, Y., ... & Liu, L. (2022). Study on clinical characteristics and related factors of schizophrenic patients with intestinal obstruction. *BMC gastroenterology*, 22(1), 11. <https://doi.org/10.1186/s12876-021-02091-y>
- Lorenz, C., Bighelli, I., Hanna, F., Akhtar, A., & Leucht, S. (2024). Update of the World Health Organization’s mental health gap action programme guideline for psychoses (including schizophrenia). *Schizophrenia Bulletin*, 50(6), 1310-1325.  
<https://doi.org/10.1093/schbul/sbae043>
- Martinez-Baladejo, M., Liongson, F. A. Z., Wong, D., Spoletti, C., Suyumov, D., Menghani, S. V., ... & Marchionni, C. (2023). Anesthetic Concerns in Psychiatric. *Updates in Anesthesia: The Operating Room and Beyond*, 287.  
<https://doi.org/10.5772/intechopen.110173>
- Masui, K., Kamata, K., Tojo, A., Sanuki, M., Nakajima, Y., & Kiyama, S. (2025). General anesthesia/general anesthetics: Journal of Anesthesia symposium 2025. *Journal of Anesthesia*, 1-5. <https://doi.org/10.1007/s00540-025-03591-x>
- Meyer, J. M. (2025). How antipsychotics work in schizophrenia: A primer on mechanisms. *CNS spectrums*, 30(1), e6. <https://doi.org/10.1017/S1092852924002244>
- Oatu, A., Capatina, T.-F., Mandras, I.-C., Comsa, A.-L., Trifu, S., & Pietreanu, A.-C. (2026). Emerging Neurobiological and Therapeutic Insights into Schizophrenia: A Comprehensive Review. *International Journal of Molecular Sciences*, 27(4), 1906.  
<https://doi.org/10.3390/ijms27041906>
- Onwumere, J., Stubbs, B., Stirling, M., Shiers, D., Gaughran, F., Rice, A. S., ... & Scott, W. (2022). Pain management in people with severe mental illness: an agenda for progress. *Pain*, 163(9), 1653-1660. <https://doi.org/10.1097/j.pain.0000000000002633>
- Perrotta, C., Carnovale, C., Pozzi, M., De Palma, C., Cervia, D., Nobile, M., & Clementi, E. (2025). Antipsychotics and dietary interventions: Pharmacodynamics, pharmacokinetics, and synergisms in therapy. *Pharmacological Reviews*, 77(4), 100061. <https://doi.org/10.1016/j.pharmr.2025.100061>



- Sertöz, N., Kayahan, S. T., & Sertöz, Ö. Ö. (2025). Implications on the perioperative management of psychotropic medications. *Minerva anesthesiologica*, 91(7-8), 702-714. <https://doi.org/10.23736/S0375-9393.25.19032-9>
- Shahimi, N. H., Lim, R., Mat, S., Goh, C. H., Tan, M. P., & Lim, E. (2022). Association between mental illness and blood pressure variability: a systematic review. *Biomedical engineering online*, 21(1), 19. <https://doi.org/10.1186/s12938-022-00985-w>
- Smith, G., D'Cruz, J. R., Rondeau, B., & Goldman, J. (2023). General anesthesia for surgeons. In *StatPearls [internet]*. StatPearls Publishing. <https://www.ncbi.nlm.nih.gov/sites/books/NBK493199/>
- Stepnicki, P., Wośko, S., Bartyzel, A., Zięba, A., Bartuzi, D., Szałaj, K., ... & Kaczor, A. A. (2023). Development and Characterization of Novel Selective, Non-Basic Dopamine D2 Receptor Antagonists for the Treatment of Schizophrenia. *Molecules*, 28(10), 4211. <https://doi.org/10.3390/molecules28104211>
- Sun, L., Mu, J., Wang, Y., & He, H. (2024). Perioperative dexmedetomidine-induced delirium in a patient with schizophrenia: A case report. *BMC anesthesiology*, 24(1), 278. <https://doi.org/10.1186/s12871-024-02670-y>