

multidisciplinary meetings and approval from the medication optimization committee led to his re-commencement on clozapine due to the treatment-resistant nature of his illness and associated risks.

Results. Clozapine, a benzisoxazole derivative, is used for treatment-resistant schizophrenia and aggressive behaviours. Its pharmacological action involves D2 and 5HT_{2A} receptor antagonism, affecting serotonergic, dopaminergic, adrenergic, cholinergic, and histaminergic receptors. However, severe side effects like agranulocytosis, seizures, myocarditis, tachycardia, and cardiomyopathy can occur. Cardiomyopathy incidence is rare (0.02–0.1%) with a mortality rate of 17.9%. Proposed mechanisms include undetected myocarditis and persistent tachycardia-induced changes leading to ventricular dysfunction. Common findings in investigations include raised CRP, leucocytosis, eosinophilia, increased lactate, elevated troponin, non-specific ECG changes, and ventricular dysfunction on echocardiography.

Conclusion. Clozapine poses rare but potentially fatal cardiac risks, including myocarditis and cardiomyopathy. Essential baseline investigations and close monitoring during the initial weeks are crucial. Persistent tachycardia may signal trouble. If suspected, serial monitoring of FBC, troponin, and CRP levels is recommended, with prompt management if confirmed with discontinuation of clozapine, as the cardiomyopathy is often reversible. A multidisciplinary approach involving cardiology is vital for optimal management. This is particularly crucial when weighing the risks of relapse in schizophrenia against the potential cardiovascular complications of clozapine therapy.

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A Rare Case of rTMS Induced Schizophrenia Symptom Switch

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Aims.

- This case study investigates a rare occurrence of symptom transition in a chronic schizophrenia patient following high-frequency repetitive transcranial magnetic stimulation (rTMS), aiming to understand the unexpected shift from predominantly negative to positive symptoms.
- rTMS, known for inducing changes in neuronal activity based on Faraday's law, is believed to enhance cortical excitability through high-frequency stimulation.
- Schizophrenia, a severe and chronic mental disorder, presents with both positive (e.g., delusions, hallucinations) and negative symptoms (e.g., apathy). Current treatments, predominantly antipsychotic drugs, often show limited efficacy, especially for negative symptoms. Non-invasive neuromodulation techniques like rTMS are emerging as potential interventions.

Methods. This case involves a 27-year-old banking executive with a 30 months illness duration primarily marked by negative symptoms over the past 3 months. Despite various antipsychotics, there was no improvement, leading to the initiation of high-frequency rTMS on the left dorsolateral prefrontal cortex (DLPFC) as an adjunct strategy for persistent negative symptoms. Surprisingly,

after the 5th rTMS session, positive symptoms like delusions and hallucinations emerged. Serial assessments demonstrated a decrease in negative symptom domain scores on PANSS but an increase in positive symptom domain scores on PANSS.

Results.

- Results suggest that 5 Hz rTMS over the left DLPFC may have contributed to the transition to positive symptoms. The discussion explores limited literature on rTMS-induced positive symptoms, with case reports dating back to 2004 indicating the possibility of such induction. Studies propose a link between higher pulse frequency, motor threshold intensity, left prefrontal cortex stimulation, and longer trial durations with the exacerbation of positive symptoms, possibly linked to dopamine changes in specific brain tracts.
- Recent trials indicate potential improvement in positive symptoms, such as excitement, with low frequency rTMS of the temporo parietal area. However, the efficacy of rTMS varies with the stimulation site, with left prefrontal rTMS showing promise for negative symptoms and left temporo-parietal junction stimulation possibly reducing auditory hallucinations.

Conclusion. This case report suggests that a subset of schizophrenia patients may experience a transient exacerbation of positive symptoms following rTMS. This underscores the need for increased awareness of potential side effects, serving as an exploratory study that calls for future research to refine these findings for a clearer understanding of rTMS-induced symptom switches in schizophrenia.

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Challenges and Delay in Treatment With Clozapine Due to Thrombocytopenia: A Case Study

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Aims. Clozapine is the most effective antipsychotic medication for patients with treatment-resistant psychotic disorders. Its discontinuation can precipitate relapse that can be often challenging to treat.

Methods. This is a case study of a female patient in her early 40s who is known to the mental health services with a diagnosis of schizoaffective disorder. She was admitted to acute psychiatric inpatient unit due to relapse characterised by psychotic, catatonic features and poor physical health condition due to refusal to eat and drink. She was stable on clozapine for more than a decade and had become unwell after discontinuation of clozapine in the community due to platelet count below $50 \times 10^9/L$ with normal other parameters. Low platelet count was detected during routine monthly blood monitoring after a few years of commencing clozapine.

Whilst an inpatient, there were several trials of re-titration of clozapine which had to be withheld because of ambiguity regarding the cause of persistent thrombocytopenia. Other treatment options including alternative antipsychotics and 12 sessions of ECT were tried without any success. Haematologist opinion was sought at early stage of admission and blood investigations were done but there was delay in bone marrow biopsy due to practical issues.