UTJMS 2025 October 15, 14(S):e1-e3 doi:10.46570/utjms-2025-1476

Behavioral Disturbance in Polymicrogyria: Medication Management to Improve Quality of Life

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Received: 12/2/2024

Accepted: 12/18/2024

Published: 10/15/2025

Background: Polymicrogyria is a heterogenous condition that involves cortical malformations. The neuropsychiatric symptoms include seizures, epilepsy, intellectual disability, behavioral disturbance, and developmental delay. There is little guidance about the role psychiatrists may have in improving the mental health of affected patients.
Objectives: This review summarizes the role psychiatrists play in the medication management of behavioral symptoms related to polymicrogyria.
Methods: A PubMed search was conducted to elucidate psychiatric symptoms and medication management. The key search term was (polymicrogyria) AND (behavioral disturbance). Several other key words were used. After review, 1,615 articles resulted and 16 met the inclusion criteria. The articles included discussed the use of medications or psychosocial factors for alleviating behavioral disturbance and seizures associated with polymicrogyria.
Results: 5 studies reported that the psychiatric symptoms associated with polymicrogyria include anxiety, depression, agitation, and behavioral disturbance. In 3 studies, the following medications were used for seizure control: zonisamide, clobazam, carbamazepine, and vigabatrin. Per 3 additional studies levetiracetam was an efficacious medication. A different longitudinal study noted that valproate, oxcarbazepine, and clonazepam were effective at reducing seizures and for mood control. The antipsychotic risperidone was also useful for decreasing aggressive behavior. In contrast, 1 case study suggested that antiepileptic drugs combined with antipsychotics did not alleviate behavioral disturbance. Another review article discussed the risk of seizures associated with antipsychotics in this population. Two retrospective cohort studies suggested implementing the ketogenic diet to decrease seizures and improve mood. Two additional studies recommended that patients engage in speech and language therapy for optimal development.

UTJMS 2025 August 15, **14**(S1):e1-e2 doi:10.46570/utjms-2025-1476

Conclusion: Based on the literature review, using an antiepileptic drug with mood stabilizing properties should target both seizures and psychiatric symptoms in polymicrogyria, while limiting polypharmacy. Further clinical research is required to delineate the most efficacious medications.

Keywords: Polymicrogyria

