Myasthenia Gravis in Pregnancy: Exacerbations Common in Peripartum

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Myasthenia gravis (MG), an autoimmune disorder causing muscle weakness, frequently affects young adult women during their reproductive years. The safety of pregnancy for women with MG is a recurring clinical question, with implications for prenatal care and medication management. A recent narrative review highlights that while MG is rare in pregnancy, exacerbations are most common during the first trimester and the postpartum period, necessitating careful monitoring and drug adjustments.1

KEY TAKEAWAYS

- The Pivot: MG exacerbations are most common in the first trimester and postpartum period, requiring vigilant monitoring.
- The Data: Some studies report higher rates of preterm birth and small-for-gestational-age babies, though other studies show outcomes similar to the general population.
- The Action: Clinicians should prioritize comprehensive prenatal treatment and multidisciplinary support, adjusting medications to avoid teratogenic drugs like mycophenolate mofetil and methotrexate.

Myasthenia gravis (MG) is an autoimmune disorder characterized by muscle weakness due to autoantibodies targeting acetylcholine receptors (AChR) or muscle-specific kinase (MuSK).1 Generalized MG is a more severe form than ocular MG.1 Although MG can manifest at any age, it commonly affects young adult women during their reproductive years.1

The pathophysiology of MG involves a breakdown in neuromuscular transmission. Autoantibodies bind to and block or destroy AChRs at the postsynaptic membrane of the neuromuscular junction, leading to reduced signal transduction from nerve to muscle. In MuSK-positive MG, autoantibodies interfere with the clustering of AChRs, also impairing neuromuscular transmission. This disruption results in fluctuating muscle weakness that worsens with activity and improves with rest. Common symptoms include ptosis, diplopia, dysphagia, dysarthria, and limb weakness. Respiratory muscle weakness can lead to myasthenic crisis, a life-threatening condition requiring urgent medical intervention.

Myasthenia Gravis in Pregnancy: A Narrative Review

A narrative review published in Diagnostics (Basel) in 2026 examined the challenges of myasthenia gravis in pregnancy, focusing on prenatal and postnatal diagnostic considerations.1 The review identified that MG is rare during pregnancy, with exacerbations most frequently occurring in the first trimester and the postpartum period.1

The review's methodology involved a comprehensive search of medical literature databases, including PubMed, Scopus,

and Web of Science, for articles published up to late 2025. Search terms included "myasthenia gravis," "pregnancy," "maternal health," "fetal outcomes," "diagnosis," and "management." The authors selected studies focusing on the clinical course of MG during pregnancy, diagnostic challenges, therapeutic strategies, and maternal and neonatal outcomes. They prioritized systematic reviews, meta-analyses, and large observational studies, but also included case series and expert opinions to provide a broad perspective on this rare condition. The narrative format allowed for a synthesis of diverse evidence, highlighting key areas of concern and knowledge gaps in the management of MG in pregnant individuals.

The influence of MG on pregnancy outcomes remains ambiguous.1 Some studies have indicated a higher prevalence of issues such as preterm birth and small-for-gestational-age babies, while other studies suggest outcomes similar to the general population.1

The variability in reported pregnancy outcomes may stem from several factors, including differences in study design, patient populations, and management protocols. For instance, studies conducted in specialized centers with multidisciplinary teams might report better outcomes due to optimized care. Additionally, the severity of MG, the presence of comorbidities, and the specific autoantibody subtype (AChR vs. MuSK) could influence maternal and fetal health. The review emphasizes the need for larger, prospective studies with standardized outcome measures to clarify these associations and provide more definitive guidance for clinicians.

Management of MG during pregnancy requires careful monitoring and drug adjustments.1 Certain immunosuppressive drugs, including mycophenolate mofetil and methotrexate, are contraindicated due to teratogenic concerns.1 In contrast, medications such as prednisolone and pyridostigmine are generally considered safe for use during pregnancy.1

Pyridostigmine, an acetylcholinesterase inhibitor, increases acetylcholine availability at the neuromuscular junction, thereby improving muscle strength. It is a first-line treatment for MG and has a favorable safety profile in pregnancy. Prednisolone, a corticosteroid, reduces the autoimmune response by suppressing the immune system. While long-term use can have side effects, its benefits in controlling MG exacerbations often outweigh the risks during pregnancy, particularly when used at the lowest effective dose. Other immunosuppressants, such as azathioprine and cyclosporine, may be considered in refractory cases, but their use requires careful risk-benefit assessment. Intravenous immunoglobulin (IVIg) and plasma exchange (PLEX) are also safe and effective options for managing acute exacerbations or preparing for delivery.

Women with MG may experience flare-ups after giving birth.1 Additionally, infants born to mothers with MG may develop transient neonatal myasthenia gravis.1 The review emphasizes that comprehensive prenatal treatment and multidisciplinary assistance are crucial for promoting maternal and fetal health in women with MG during pregnancy.1

Transient neonatal myasthenia gravis occurs in approximately 10-20% of infants born to mothers with MG. This condition is caused by the transplacental passage of maternal AChR antibodies to the fetus. Symptoms typically appear

within the first few days of life and include poor suck, weak cry, hypotonia, and respiratory distress. The condition is usually self-limiting, resolving within a few weeks to months as the maternal antibodies are cleared from the infant's circulation. Management is supportive and may include anticholinesterase medications, feeding assistance, and respiratory support. The review highlights the importance of anticipating this complication and ensuring that pediatricians are aware of the mother's MG diagnosis to facilitate prompt recognition and management.

The paper also discusses the relevance of immunological biomarkers, RNAs, and other novel biomarkers in MG.1 It highlights the need for further investigation to determine their role in MG pathogenesis, evaluate biomarker profiles across subgroups, and observe changes after treatment.1 The study also underscores the significance of high-throughput investigations to identify new biomarkers and reveal genetic variables impacting MG pathogenesis.1

The limitations of the narrative review format include its susceptibility to author bias in selecting and interpreting studies, and the inability to perform a quantitative synthesis of data, unlike a systematic review or meta-analysis. The rarity of MG in pregnancy also means that much of the available evidence comes from small observational studies or case reports, which may lack statistical power and generalizability. The review acknowledges these limitations and calls for more robust research methodologies, including prospective cohort studies and international registries, to build a stronger evidence base for managing MG during pregnancy.

CLINICAL IMPLICATIONS

The persistent ambiguity regarding pregnancy outcomes for women with myasthenia gravis, as highlighted by this review, presents a practical challenge for clinicians. While some studies point to increased risks like preterm birth, the lack of consistent data means that individual patient counseling must remain highly nuanced. Relying on general population outcomes for reassurance, when specific risks are still debated, is a disservice to patients and potentially overlooks subtle but significant complications. The emphasis on multidisciplinary care is not merely a recommendation; it is a necessity given the complexities of managing an autoimmune condition during pregnancy and the postpartum period.

The clear distinction between contraindicated and safe medications during pregnancy (e.g., mycophenolate mofetil vs. prednisolone) is a critical piece of information that should be front-of-mind for any prescribing physician. The potential for transient neonatal myasthenia gravis also mandates close collaboration between neurologists, obstetricians, and neonatologists. This is not a condition where a single specialist can operate in isolation. The industry, particularly pharmaceutical companies developing new immunosuppressants, should prioritize robust reproductive safety data early in development, rather than leaving clinicians to extrapolate from limited evidence or rely on post-market surveillance.

Patients with MG contemplating pregnancy require transparent, evidence-based discussions about potential risks and the intensive monitoring required. The review's call for more research into biomarkers and genetic variables is a long-term goal, but for now, the focus must remain on optimizing current management strategies. The fact that exacerbations are most common in the first trimester and postpartum period provides actionable intelligence, allowing for proactive monitoring and intervention during these vulnerable windows. This is where clinical vigilance can make a tangible difference in maternal and neonatal outcomes.

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