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GUILLAIN–BARRE SYNDROME IN PREGNANCY – AN UNUSUAL CASE

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ABSTRACT

Guillain-Barré syndrome is a rare condition in pregnancy with incidence of 1.2-1.9 per 1,00,000 cases annually, which is characterised by symmetrical progressive ascending polyneuropathy. Aims and Objectives: We report two cases due its rarity and high index of suspicion needed for its diagnosis. High index of suspicion for early diagnosis and prompt intensive multidisciplinary care in a GBS complicated pregnancy improve the prognosis for both mother and fetus.

INTRODUCTION

Guillain-Barré Syndrome (GBS) is an acute, immune-mediated polyradiculoneuropathy characterized by varying degrees of motor weakness, sensory abnormalities, and autonomic dysfunction. It occurs when autoantibodies target components of the peripheral nervous system, typically following an infection. While Campylobacter jejuni is the most frequently identified infectious trigger, a range of non-infectious causes—including medications and surgical interventions—have also been documented [1].The syndrome presents with diverse patterns of weakness, including ascending symmetrical paralysis, descending weakness, proximal or distal predominance, and specific syndromic variants such as:

- Acute Motor Axonal Neuropathy (AMAN)
- Acute Inflammatory Demyelinating Polyradiculo-neuropathy (AIDP)
- Miller Fisher Syndrome (MFS), featuring ophthalmo-plegia
- Pharyngeal-cervical-brachial variant
- Facial diplegia, bulbar involvement, truncal and respiratory muscle weakness

Although GBS is uncommon, a historical concern arose in 1976, when an increased incidence was reported following influenza A/H1N1 vaccination. Since then, extensive surveillance has demonstrated a significantly reduced risk, estimated at approximately one additional case per million flu vaccinations administered [2–6].

GBS during pregnancy is exceptionally rare and can present diagnostic and therapeutic challenges due to the physiological changes of gestation, limited diagnostic options, and concerns regarding fetal well-being. In resource-limited settings or when invasive procedures such as lumbar puncture are deferred, clinicians must rely on alternative methods for diagnosis. We report two cases of GBS occurring during pregnancy—one diagnosed in the second trimester (5th month) and the other in the third trimester. Both cases were diagnosed based on clinical presentation, blood investigations, and magnetic resonance imaging (MRI), without cerebrospinal fluid (CSF) analysis. Neither patient had a prior history of autoimmune disease or recent infection.

Case 1

A 19 -year-old female at 18 weeks of gestation presented to the inpatient unit of a tertiary-level hospital with complaints of weakness in the bilateral lower limbs and unable to move both feet since 5 days , muscle pain, balance disturbances, nausea, vertigo, general weakness, voice change and pronounced fatigue. The patient was diagnosed with flaccid paraplegia with bowel and bladder involvement. Normal development of the fetus was confirmed through ultrasound examinations performed during pregnancy. There was no history of ascending viral infection. According to the patient's history, patients' father and brother had similar history of sudden weakness of bilateral lower limbs and unable to walk resolved after receiving treatment. Objective examination revealed the following: the patient was conscious, was oriented to time and space, answered questions adequately and without delay, and had a Glasgow Coma Scale score of 15 points. Patient vitals stable. Neurological examination revelaed 5/5 power in bilateral upper limbs and 0/5 power in bilateral lower limbs. The patient underwent clinical and paraclinical investigations (a complete blood count , there was no fractional protein in the urine; and biochemical blood analysis, coagulogram, and general urine analysis revealed no particularity).MRI done. Patient treated with IV Immunoglobulin 100 ml (3 doses) and IV Methylprednisolone 500 mg bd (5 days), IV Analgesics, IV Antibiotics, supportive measures and physiotherapy. Gradually patient's condition improved. Patient had cesarean section at term i/v/o maternal request, mother and baby healthy. No post-operative complications noted. Limb Physiotherapy continued.

Case 2

A 26-year-old G2P1L1, housewife at 38 weeks period of gestation, presented to our emergency with chief complaints of sudden onset of weakness in bilateral lower limbs since 2 days, gradually involving upper limbs.A detailed history, physical examination and nerve conduction studies led to the diagnosis of GBS. All investigations including electrolytes were normal. Neurology consultation was sought, a thorough neurological examination was performed which showed that higher mental function was intact, power of 4/5 in neck, 4/5 in upper limb, 2/5 in lower limb, tone was also decreased in lower limbs, deep tendon reflex was absent in lower limbs, but the sensations were intact. An impression of GBS was made. Nerve conductions study was performed which showed decrease amplitude of compound action potentials of bilateral median, right ulnar, left peroneal with no response in left ulnar, right peroneal, left tibial nerve which was suggestive of pure motor axonal polyneuropathy.The patient received IV Immunoglobulin and physiotherapy as a treatment. She had a spontaneous vertex delivery of a live female baby that weighed 2.75 kg with good Apgar scores. She did not have any postpartum complications, and the neonate was healthy and normal. She was managed supportively as an in-patient with physiotherapy in conjunction with the physiotherapists.

DISCUSSION

GBS in pregnancy, though rare, poses significant clinical concern due to the diagnostic complexity and the potential for severe maternal and fetal complications. The two cases presented here demonstrate both the commonalities and variations in clinical course and management based on gestational age at onset. Insights from previously published

case studies are used to contextualize these findings.

1. Prevalence and Timing of Onset

GBS can occur at any stage of pregnancy, though literature suggests a higher incidence during the third trimester and postpartum period [7]. A study from Nepal reported that among pregnant patients with GBS, 13% presented in the first trimester, 47% in the second, and 40% in the third [8]. The first case in our series, presenting at 5 months, represents a relatively less common second-trimester onset, whereas the second case aligns with the more frequently reported third-trimester presentation.

2. Clinical Features and Disease Course

Classic GBS symptoms—ascending symmetrical muscle weakness, areflexia, and in some cases cranial nerve involvement—were observed in both patients [7–9,11]. While the second-trimester case showed a more gradual progression, the third-trimester case demonstrated a more rapid and potentially severe course, consistent with existing literature indicating faster progression and increased severity later in pregnancy. This necessitates prompt recognition and early intervention.

3. Diagnosis in the Absence of CSF Analysis

While the diagnosis of GBS is traditionally supported by CSF analysis (showing albuminocytologic dissociation), nerve conduction studies (NCS), and neuroimaging, it can still be confidently established based on clinical criteria in the absence of CSF testing [10]. In one published case, diagnosis was made using clinical features, MRI, and NCS without lumbar puncture, mirroring our approach [11]. In both of our patients, diagnosis was confirmed through clinical history, blood tests, MRI findings, and NCS, emphasizing that CSF analysis, while supportive, is not always essential, especially when contraindicated or unavailable.

4. Management and Outcomes

The management of GBS in pregnancy is similar to that in the nonpregnant population and includes intravenous immunoglobulins (IVIG), plasmapheresis, and ventilator support if required. Immunomodulation with plasmapheresis and IVIG has been found to improve treatment outcomes with full recovery in 70-80% of patients. [9–11]. In both our cases, treatment involved supportive care, physiotherapy, and multidisciplinary coordination between neurology and obstetrics teams. Both patients had favorable maternal and fetal outcomes, consistent with literature indicating that timely and collaborative care can significantly improve prognosis, even in severe presentations.

5. Comparison of the Two Cases

Feature	Case 1 (Second Trimester)	Case 2 (Third Trimester)	Literature Context
Gestational Age at Onset	5th month (mid-second trimester)	Third trimester	Third trimester more commonly reported [7,8]
Clinical Progression	Moderate and gradual	Faster, severe	Rapid progression more likely in later pregnancy
Diagnostic Approach	Clinical history, MRI, Investigation	Clinical history, Nerve conduction studies, Investi-gation	Supports diagnostic accuracy without CSF [11]
CSF Analysis	Not performed	Not performed	CSF is not mandatory in all cases [10]
Treatment	Supportive care, Physiotherapy	Supportive care Physio-therapy	Consistent with standard GBS management
Outcome	Favorable	Favorable	Early diagnosis leads to positive outcomes [9–11]

CONCLUSION

These cases underscore the importance of considering GBS in the differential diagnosis of pregnant patients with progressive weakness, even in the absence of typical risk factors or preceding infections. They highlight the need for multidisciplinary care, reliance on non- invasive diagnostic modalities when CSF analysis is not feasible, and early therapeutic intervention. With appropriate clinical judgment and supportive management, favorable outcomes are achievable.

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