JOGECA
Journal of Obstetrics and Gynecology of Eastern and Central Africa

CASE REPORT

Obstetrics

Guillain-Barré Syndrome in pregnancy: A case report

Athmany A.W[1,*], Lwamulungi E[1], Chemwey R[2]

[1] Department of Obstetrics and Gynecology, University of Nairobi, Nairobi, Kenya.
[2] Department of Obstetrics and Gynecology, Kenyatta National Hospital, Nairobi, Kenya.

[*]**Correspondence**: Athmany A.W, athmany84@gmail.com

Received: 20 December 2020; Revised: 10 February 2021; Accepted: 16 March 2021; Available online: April 2021

Abstract

Background: The occurrence of Guillain-Barré Syndrome (GBS) in pregnancy is rare. The risk of GBS in pregnancy increases in the third trimester and the first two weeks postpartum.

Case presentation: A 20-year-old primigravida at 34 weeks presented with rapidly progressive paralysis at the Kenyatta National Hospital. She gave a two-month history of sudden onset progressive and ascending lower limb weakness, and was unable to walk. However, she did not report experiencing any respiratory distress. The cerebrospinal fluid M proteins levels was 1 004 mg/L and creatinine kinase level was 158 U/L. A diagnosis of Guillain-Barré Syndrome was made. The patient was started on Intravenous Immunoglobulins (IVIG) for five days combined with physiotherapy. The patient went into spontaneous labor at 39 weeks gestation and was delivered a live male infant. The infant was admitted to the Newborn Unit. Breastfeeding and care challenges were mitigated by the mother expressing breastmilk with assistance and the baby fed by the nurse.

Conclusion: Intravenous immunoglobulins and plasma exchange, with supportive care, offer good prognosis in the management of GBS. A combination of intravenous immunoglobulins with physiotherapy can hasten recovery.

Keywords: The Guillaine- Barré syndrome during pregnancy has a mild course with good maternal and neonatal outcomes. The supplementation of supportive care with the combination of intravenous immunoglobulin and plasma exchange offer good prognosis in GBS management.

Conflict of Interest: None
Funding: None

Introduction

The Guillain-Barré Syndrome (GBS) is an acute monophasic illness, which presents as progressive ascending polyneuropathy with paralysis or weakness and high protein levels in Cerebrospinal Fluid (CSF) (1). It can occur in any trimester of pregnancy and the postpartum period. However, most cases are diagnosed in the third trimester and the first two weeks postpartum (2). The Guillain-Barré syndrome develops when antigenic epitopes of a microbe induce T cells′ release or antibodies that cross-react with the peripheral nerve system′s natural epitopes or components through molecular mimicry (3). This typically begins within 1 - 3 weeks of initial infection. Trauma, surgery, and immunization are the other known trigger events (4). There is delayed diagnosis of the disease in pregnancy or the immediate postpartum period because the initial non-specific symptoms may mimic pregnancy changes. Guillain-Barré syndrome should be considered in any pregnant patient presenting with of general malaise, muscle weakness, and respiratory difficulty (5).

This is a case of GBS in pregnancy which was managed with intravenous immunoglobulin and physiotherapy.

Case presentation

A 20-year-old primigravida at 34 weeks of gestation presented to the Kenyatta National Hospital (KNH) with a two-month history of sudden onset progressive and ascending lower limb weakness. The weakness worsened to involve her upper limbs bilaterally. She was unable to clinch any object nor walk. She neither had difficulty in breathing nor history of infection or trauma before the onset of symptoms. She attended Antenatal Clinic (ANC) twice before admission. On clinical examination, she was in a general fair condition with a blood pressure of 110/60 mmHg and a pulse rate of 85 Beats Per Minute (BPM). Her Glasgow Coma Scale (GCS) was 15/15, with pupils bilaterally equal and responsive to light and a negative Kernig's sign. Upper limb motor response both right and left had distal to proximal weakness with reduced tone and extensor and flexor weakness. Power grade 2 and 3 were elicited for the right and left upper limb, respectively. The lower limb motor response for both right and left limbs had distal to proximal weakness with reduced tone and reflexes and Power grade 2 bilaterally.

An obstetric ultrasound revealed a single live intrauterine pregnancy 34 weeks 4 days with an estimated fetal weight of 2 313 grams in cephalic presentation and a biophysical profile of 8/8. The fetal heart rate was 150 BPM. Her hemoglobin was 12.3 g/dl. Her thyroid profile was Free Triiodothyronine (T3) 4.16 pmol/L, Free Thyroxine (T4) 16.99 pmol/L, and Thyroid-Stimulating Hormone (TSH) 2.77 uIU/ml. Calcium and magnesium levels were 2.22 and 1.52 mmol/L, respectively, and creatinine kinase level was 158 U/L. C-reactive Protein (CRP) level was elevated at 11.51 mg/L. Anti-Nuclear Antibodies (ANA) test was negative. The Cerebrospinal Fluid (CSF) M-proteins were 1 004 mg/L. A diagnosis of Guillain-Barré syndrome was made. The patient was started on Intravenous Immunoglobulin (IVIG) 26 grams (400mg/kg) daily for five days and physiotherapy. Subcutaneous Enoxaparin 40mg was administered daily for thromboprophylaxis.

At 39 weeks of gestation, the patient went into spontaneous labor, and a live male infant was delivered with a weight of 3 500 grams and an Apgar score of 9 at 5 minutes. The mother was unable to hold her baby nor breastfeed. The baby was admitted to the Newborn Unit (NBU) to allow the mother time for recovery and treatment. Breastfeeding was assisted by the mother expressing breastmilk and the child fed by the nurse. Physiotherapy was continued for three weeks postpartum with marked improvement, and the patient was discharged through the medical clinic for further follow-up.

Discussion

The incidence of Guillain-Barré syndrome is 1–2 in 100 000. It increases with age and is similar in the obstetric population (6). Most patients present with a history of progressive ascending symmetrical skeletal muscle weakness. A gastrointestinal or respiratory infection commonly precedes these symptoms in approximately 60% of patients within six weeks (7). The main subtypes of classic GBS include demyelinating neuropathy, commonly referred to as Acute Inflammatory Demyelinating Polyneuropathy [AIDP]) and axonal neuropathy (Acute Motor Axonal Neuropathy (AMAN)). Other variants are the Acute Motor and Sensory Axonal Neuropathy (AMAN), the Miller-Fisher syndrome (MFS), and the Cranial Nerve Variants (CNV) (4). Classic GBS is graded using the Brighton diagnostic criteria level, ranging from 1 to 4, the highest level of certainty being level 1 and lowest level 4 (4). The presented case experienced flaccid paralysis of the limbs ascending and progressive with normal CSF cell count and M proteins and met the diagnostic criteria for classic GBS level 2. According to the GBS scale of disability (grade 1 to 6) adopted in 1978 by Hughes et al., (8), this case was categorized as grade 5 as she was bedridden and unable to walk 10 meters independently.

The risk of relapse of GBS is higher during the postpartum period. However, an association between the natural history of GBS and pregnancy has not been demonstrated (6). A retrospective study evaluating the fetal and maternal outcomes of pregnant women with GBS in North-Eastern India reported a mild natural course of GBS in during pregnancy, with most cases recovering quickly. The maternal and perinatal outcome was good (2). Supportive care is the mainstay management protocol for GBS. The administration of steroids is considered to have with limited benefits (1).

The patient, in this case, was started on physiotherapy two days following admission and had marked improvement. Supportive management alone has been shown to take longer to achieve remission. Therefore, administration of intravenous immunoglobulins and Plasma Exchange (PE) offer faster remission. The incidence of adverse outcomes is low with both treatments, but IVIG is likely to be completed as treatment compared to PE. No significant benefit was observed by instituting IVIG after PE (3). There are two methods of treatment. The zipper method, involving one session beginning with PE followed

by five IVIG cycles for seven days, and combination therapy entailing five PE sessions first followed by five IVIG cycles are effective (9). In addition to supportive treatment, the patient in this case also received five IVIG cycles for five days without plasma exchange. She still showed marked improvement.

Conclusion

The Guilaine- Barré syndrome during pregnancy has a mild course with good maternal and neonatal outcomes. The supplementation of supportive care with the combination of intravenous immunoglobulin and plasma exchange offer good prognosis in GBS management.

References

1 Fernando T, Ambanwala A, Ranaweera P, Kaluarachchi A. Guillain-Barré syndrome in pregnancy: A conservatively managed case. J Fam Med Prim Care. 2016;5(3):688.

2 Sharma SR, Sharma N, Masaraf H, Singh SA. Guillain-Barré syndrome complicating pregnancy and correlation with maternal and fetal outcome in North-Eastern India: A retrospective study. Ann Indian Acad Neurol. 2015;18(2):215–8.

3 Hughes RA, Swan AV, van Doorn PA. Intravenous immunoglobulin for Guillain-Barré syndrome. Cochrane Database Syst Rev. 2010; (9).

4 Zeng Y, Liu Y, Xie Y, Liang J, Xiao Z, Lu Z. Clinical Features and the Validation of the Brighton Criteria in Guillain-Barré Syndrome: Retrospective Analysis of 72 Hospitalized Patients in Three Years. Eur Neurol. 2019;81(5–6):231–8.

5 Zafar MS, Naqash Mm, Bhat T, Malik G. Guillain-Barré syndrome in pregnancy: An unusual case. J Fam Med Prim Care. 2013;2(1):90.

6 Pacheco LD, Saad AF, Hankins GDV, Chiosi G, Saade G. Guillain-Barré Syndrome in Pregnancy. Obstet Gynecol. 2016;128(5):1105–10.

7 Hukuimwe M, Matsa TT, Gidiri MF. Guillain-Barré syndrome in pregnancy: A case report. Women's Heal. 2017;13(1):10–3.

8 Fokke C, Van Den Berg B, Drenthen J, Walgaard C, Van Doorn PA, Jacobs BC. Diagnosis of Guillain-Barré syndrome and validation of Brighton criteria. Brain. 2014;137(1):33–43.

9 Kesici S, Tanyıldız M, Yetimakman F, Bayrakci B. A Novel Treatment Strategy for Severe Guillain-Barré Syndrome: Zipper Method. J Child Neurol. 2019;34(5):277–83.