

Spontaneous vaginal delivery after a pregnancy complicated with Guillain-Barré syndrome

Guillain-Barré sendromu ile komplike bir gebelikte normal doğum

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Abstract

Guillain-Barré syndrome (GBS) is a rarely encountered, acute autoimmune polyradiculoneuropathy which is usually severe and fulminant. Although it is considered not to have an impact on the prognosis of pregnancy, there is no consensus on its management particularly in pregnant women with advanced motor dysfunctions. Different obstetrical approaches have been suggested. Herein, we discussed a case, which has been diagnosed with GBS in the 3rd trimester in our clinic and gave birth to a healthy infant via spontaneous vaginal delivery without any intrapartum or postpartum maternal complication. Patient presentation, diagnosis, treatment and outcome as well of review of the literature will be discussed.

Keywords: Guillain-Barré syndrome, Pregnancy, Spontaneous vaginal delivery, Immunoglobulin

Öz

Gebeliğin akut idiyopatik polinöropatilerin (Guillain-Barré Sendromu) etyopatogenezi ve prognozuna belirgin bir etkisinin olmadığı düşünülmesine rağmen, özellikle ileri motor disfonksiyonlarla giden gebelerde değişik obstetrik yaklaşımlar önerilmektedir. Kliniğimizde 3. trimesterde başlayan akut idiyopatik polinöropati tanısı alan intrapartum ve postpartum hiç bir maternal komplikasyon gelişmeden spontan vajinal yolla sağlıklı bir bebeğin doğması bu hastalarda konservatif bir obstetrik yaklaşımın yararlı olabileceğini düşündürmektedir. Hastanın sunumu, tanı, tedavi ve sonuçları ile birlikte literatür gözden geçirilecektir.

Anahtar kelimeler: Guillain-Barré sendromu, Gebelik, Spontan vajinal doğum, İmmunoglobulin

Introduction

Guillain-Barré Syndrome (GBS) is an acute inflammatory and demyelinating polyneuropathy with a prevalence rate of 1.2-1.9/100.000 in general population [1]. GBS is a severe and progressive syndrome characterized by ascending motor weakness with sudden onset that starts symmetrically [2]. Complaint of sensory loss such as hyporeflexia and paresthesia may accompany motor weakness [3]. Etiopathogenesis remains unclear. Immunopathological events triggered by any infection, immunization, or surgical procedure are considered responsible [4,5]. It has been stated that the disease has no remarkable impact on the etiopathogenesis or the prognosis of pregnancy. The prevalence rate is 13% in the first trimester, 47% in the second trimester and 40% in the third trimester [4]. There is no standard obstetric approach for pregnant women yet [1,2]. Herein, spontaneous vaginal delivery of a pregnant woman with GBS, which started in the third trimester, is going to be discussed with the patient's consent.

Case presentation

A 30-year-old and multiparous and 36-week pregnant woman according to the last menstrual period presented with pins and needles and numbness starting a month ago in her arms and legs. The patient had no history of infectious disease in the last four weeks and her medical history and examination of her systems were unremarkable. Her routine biochemistry tests, complete blood count and vitamin B12 values were within the normal limits. Her CMV IgM results were negative.

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Informed Consent: The author stated that the
written consent was received from the patient who
was presented in this study.

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Her neurological examination revealed complete muscle strength in the upper extremities, whereas proximal 4 (according to the 0-5 Medical Research Council [MRC] scale) and distal 5 (according to the 0-5 Medical Research Council [MRC] scale) muscle strength was determined in the lower extremities.

The deep tendon reflexes of her upper extremities were normoactive, whereas the deep tendon reflexes of her lower extremities were hypoactive. On her obstetric evaluation, no sign of fetal distress was obtained from the non-stress test, biophysical profile and umbilical arterial blood flow index. The patient was examined in the neurology department and diagnosed with GBS based on the clinical, imaging and EMG findings, and IVIG therapy was given at a dose of 0.4gr/kg/day for 5 days. The patient had no history of an infection. Therefore she didn't receive any antibiotherapy. On the other hand, she benefited from the IVIG therapy. In her follow ups, there were no indications for her to be admitted to the intensive care unit.

During follow-up, the labor started with spontaneous rupture of membranes (water breaking) when she was 38 weeks and 2 days pregnant. Following an active labor of 5 hours and 20 minutes (5 hours for Period I and 20 minutes for Period II), she gave birth to a 3480 gr baby boy with vertex presentation and 9-10 Apgar via spontaneous vaginal delivery. The patient, who had no intrapartum or postpartum fetal or maternal obstetric complication, received help only with 1% oxytocin for secondary hypotonic uterus dysfunction in the last 2 hours of labor. The baby was discharged from the hospital alive and healthy on the postpartum Day 1. She was mobilized without any problems and she didn't need to be given low molecular weight heparin.

At the last physical examination, the muscle strength of the proximal and distal muscles of her lower and upper extremities was scored as 5 (according to the 0-5 Medical Research Council [MRC] scale). Her deep tendon reflexes were normal and she didn't have any loss sensation on the skin. There were no pathological changes at the electromyography.

Discussion

GBS is a rarely encountered disease characterized by acute, symmetric and progressive degeneration of multiple peripheral and cranial nerves. Although its etiopathogenesis remains unclear, immunopathological events triggered by respiratory or gastrointestinal viral infections, immunization, or surgical procedure before the onset of neurological symptoms are considered responsible [6,7]. History of respiratory tract infection is present in 40% and gastroenteritis is present in 20% of the patients four weeks before the signs of syndrome appear [8,9]. The most common infectious agents include *Campylobacter jejuni* (26%) and Cytomegalovirus (13%) [4]. The presented patient had no history of infection.

Early diagnosis and treatment is critical. Specific methods used in the treatment of GBS consist of plasmapheresis and IVIG. IVIG and plasmapheresis have comparable efficacy in the prevention of progression of neurological symptoms [4]. Any maternal or fetal complication due to the immunotherapy given for GBS has not been reported in pregnant women [10]. In a review including 30 pregnant women with GBS between 1986 and 2002, it was emphasized that mechanical ventilation was required in 33.3% of the cases, plasmapheresis or IVIG was used

in 22 cases, maternal or fetal complication was not encountered in any of the cases, and IVIG might be a better option in GBS of pregnant women as it does not cause significant change in blood pressure.

It is rarely encountered during pregnancy. It is believed that pregnancy neither plays a role in the etiopathogenesis of GBS nor significantly influences the prognosis [3,4]. However, establishing a standard protocol in obstetric approach has failed due to inadequate number of cases. There are authors defending that cesarean section would be appropriate particularly in pregnant women that develop quadriplegia and are not able to use abdominal muscles as the labor would be prolonged and maternal and fetal prognosis would be influenced [5,8]. However, the authors recommending conservative monitoring and vaginal delivery as long as fetal wellbeing continue account for the majority [2,4,6]. The present case as well was followed conservatively until the development of preterm labor in the 38th week of gestation. Spontaneous vaginal delivery was allowed because of early rupture of membranes (water breaking). Any intrapartum or postpartum obstetric complication did not develop or the labor was not prolonged.

Based on this case, we concluded that a pregnant woman with GBS can be followed conservatively with appropriate supportive treatment (IVIG) and the delivery can be done via induction or spontaneous vaginal route after the completion of fetal maturation, and this approach does not have negative impact on maternal or fetal prognosis.

References

1. Hughes RA, Cornblath DR. Guillain Barre syndrome. *Lancet*. 2005;366:1653-66.
2. Guillain G, Barré JA, Strohl A. Radiculoneuritis syndrome with hyperalbuminosis of cerebrospinal fluid without cellular reaction. Notes on clinical features and graphs of tendon reflexes. 1999;150:24-32.
3. Yuki N, Hartung HP. Guillain-Barré syndrome. *N Engl J Med*. 2012;366:2294-304.
4. Chan LY, Tsui MH, Leung TN. Guillain-Barré Syndrome in Pregnancy. *Acta Obstet Gynecol Scand*. 2004;83:319-25.
5. Aminoff MF, Neurologic disorders, (in) *Maternal Fetal Medicine; Principle and Practice* (eds) Creasy RK, Rennie R. W-B. Saunders Company, Philadelphia, 1995;1071-1101.
6. Quinlan DJ, Moodley J, Lallo BJ: Guillain Barre Syndrome in pregnancy: A case report. *S Afr Med J*. 1988;73(10):611-12.
7. Gautier PE, Hantsen P, Vekemans MC, et al. Intensive care management of Guillain-Barré syndrome during pregnancy *Intensive Care Med*. 1990;16(7):460-2.
8. Cetinkaya K, Atakan AR, Yapca OE, Ulvi H, Ozel L, et al. Guillain-Barre Syndrome in Pregnancy. *Case Report*. 2010;7(1):53-7.
9. The Italian Guillain-Barre Study Group. The prognosis and main prognostic indicators of Guillain-Barre syndrome: a multicentre prospective study of 297 patients. *Brain*. 1996;119:2053-61.
10. Luis D, Pacheco MD, Antonio F, et al. Guillain-Barré Syndrome in Pregnancy. *Obstetrics & Gynecology*. 2016;128(5):1105-10.