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Case Report

Guillain-Barre Syndrome during Post-Partum Period: A Case Report

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Abstract

Guillain-Barre syndrome (GBS) is an autoimmune, demyelinating peripheral neuropathy. It is a post-infectious disease most often, but it can also appear during pregnancy and especially during the post-partum period with a classical clinical profile and a usual diagnostic and therapeutic approach, but with variable degrees of severity. We report a single case of GBS complicating a postpartum pregnancy. The patient recovered well with supportive measures and without administration of intravenous immunoglobulin.

Keywords: *Guillain-Barre Syndrome (GBS); Post-Partum Period; Plasma Exchange; Intravenous Immunoglobulin*

Abbreviations

GBS: Guillain-Barre Syndrome; IVIG: Intravenous Immunoglobulin; CNS: Central Nervous System

Introduction

Guillain-Barre syndrome (GBS), or acute inflammatory polyradiculoneuropathy, is an autoimmune, demyelinating and multifocal peripheral neuropathy. It manifests as an ascending motor deficit with areflexia and frequently affects sensitivity and cranial nerves. In more than 60% of cases, GBS has followed a lung infection or a gastrointestinal infection [1]. However, GBS complicating pregnancy is an infrequent affection with an incidence of 1.2 and 1.9 cases per 100,000 per year, with a high maternal risk [2]. The aim of this work is to determinate the epidemiological, clinical and therapeutic aspects of Guillain-Barre syndrome in the postpartum period.

Materials and Methods

This is a case study the aim of which is to provide feedback from the experience of obstetric anesthesia and resuscitation service at Elharrouchi Hospital of Ibn Rochd university Hospital, we presented the clinical case of 1 patient hospitalized for Guillain-Barre syndrome during the postpartum period.

Case Report and Discussion

A 32-year-old patient, Gastritis I and Parity I without any pathological history, who had a planned caesarean. At the day 15 of the postpartum period, the patient presented initially a tingling sensation in both lower limbs below the knees followed by bilateral symmetrical heaviness of the lower limbs without loss of walking, reaching the upper limbs after a few days associated to dysarthria, facial paralysis, chest tightness and swallowing disorder.

The patient was admitted to the obstetric resuscitation service at the 30th day of postpartum and reported the end of the progression of the symptoms with disappearance of the swallowing disorders, chest tightness and improvement of the deficit especially in the upper limb.

At the examination, the patient was conscious 15/15 normotensive at 12/08 normocardial at 92 bpm eupneic at 23 bpm SpO_2 = 99% at free air without swallowing disorders, the neurological evaluation revealed a bilateral weakness of the limbs with muscular strength rated at 4/5 at the upper limb and 3/5 at the lower limb while preserving a walking with support and an areflexia at the 4 limbs the plantar reflex was indifferent bilaterally and the Lasegue sign was negative. The examination of the sensitivity and the cranial pairs was normal.

A cerebral and medullary MRI as well as a cerebrospinal fluid analysis were done revealing no abnormality, and the nerve conduction tests reveal a demyelinating sensitivo-motor neuropathy in the 4 limbs, the rest of the biological assessment was without particularities.

Symptomatic treatment was administered with thromboprophylaxis, vitamin therapy and physiotherapy sessions. The administration of IVIGs was considered useless since the patient was in the recovery phase. GBS is a rare syndrome in the period of pregnancy but can be seen particularly in the 3rd trimester and the first weeks postpartum [3,4]. Its incidence is between 1.2 and 1.9 cases per 100,000 per year, with a high maternal risk [2].

In its classical presentation, GBS has three phases, an extension phase, a plateau phase and a recovery phase.

The extension phase takes less than four weeks, with sensory disorders in the foreground, such as paresthesias or dysesthesias of the extremities. This is followed by a bilateral and symmetrical flaccid motor deficit with areflexia which predominates in the proximal region and which has an ascending progression. The severity of the deficit is variable with the risk of evolution towards tetraplegia, facial diplegia or phrenic nerve damage leading to acute restrictive respiratory failure [1,5].

The duration of the plateau phase is variable; it is longer in severe forms, and the recovery phase is generally in the reverse order of the appearance of the deficits. Clinical variations may occur after the start of treatment, with the possibility of deterioration [6]. The relapses during GBS are exceptional but can be observed in 2 to 5% of cases [6,7].

Atypical forms are possible with a completely different symptomatology from the classic Guillain-Barre syndrome but sharing the same physiopathological mechanisms, especially the presence of antiganglioside antibodies (descending forms, initial damage to the cranial pairs, ataxia, signs of CNS damage); these forms include Miller Fisher syndrome and Bickerstaff encephalopathy.

The occurrence of GBS during pregnancy or in the postpartum period is associated with an increase in the use of mechanical ventilation and an increase in maternal mortality up to 7%, with 20% of patients remaining disabled beyond one year [8]. The study by Fernando MS., *et al*. [9] shows the worsening of GBS in the postpartum period. Likewise, another study conducted by Silva CF., *et al*. [10] had mentioned a case of GBS, diagnosed at 15 weeks of pregnancy and deteriorated in the postpartum period.

In view of the immune dysfunction in GBS, plasma exchange and intravenous immunoglobulin (IVIG) have allowed a complete recovery in 70 - 80% of patients treated by this method [11]. Numerous studies, including meta-analyses, have found IVIG therapy to be effective in GBS. Randomized controlled trials show that IVIG has fewer negative effects compared to plasma exchange.

The study conducted by Kachru C., *et al*. [12] reported the case of a Primigravida patient presented at the 4th day of postpartum with a typical Guillain-Barre symptomatology with loss of walk and a paraclinic in favor of the diagnosis. The therapeutic strategy was based on IVIG for 7 days leading to a complete recovery at 6 months. Our case is relatively different from the other studies because the onset of symptoms was observed at the 15th day of postpartum and the patient was hospitalized only at the end of the plateau phase and the

beginning of the recovery phase without administration of IVIG, the recovery was progressive thanks to the multidisciplinary support that was provided.

Conclusion

Guillain-Barre syndrome is an infrequent affection during the pregnancy but can happen with variable impact on the mother and the foetus or the newborn. Any sensory or sensory-motor disorder with an ascending progression in the pre- or postpartum period should alert the doctor. Early diagnosis with multidisciplinary measures helps to improve the prognosis.

Conflict of Interest

I declare the absence of any financial interest or conflict of interest.

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