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Original Article

Gullain-Barre' Syndrome during pregnancy: Fetomaternal outcomes

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Abstract

Background

Gullain-Barre' Syndrome (GBS) is not uncommon during pregnancy in our setting. There are no studies regarding the clinical profile and fetomaternal outcomes of GBS during pregnancy in Nepal. Therefore, this study was conducted to analyse clinical profile and fetomaternal outcome of pregnant women with GBS.

Material & Methods

Prospective descriptive analysis was carried out of all female's cases of >16 years women of GBS with pregnancy who were admitted in the hospital between 1st August 2015 and 30th July 2016. A structured questionnaire was designed which included demographic, obstetric, clinical, neonatal and neurological parameters.

Results

During the period of 1 year, 11 cases were analysed with median age of 23.7 years. Disease was common in primi and in 3rd trimester. Three patients (27.2%)needed mechanical ventilation and one of them (9%) died due to ventilator associated pneumonia. There was only one (9%) neonatal death.

Conclusion

Gullain-Barre' Syndrome is not uncommon in our setting. Early diagnosis and proper management of pregnant women with GBS may result in good fetomaternal outcome.

Key Words: *Gullain-Barre' Syndrome, Pregnancy, Fetomaternal outcomes*

Introduction

Guillain-Barré syndrome (GBS) is an acute demyelinating peripheral polyneuropathy and is the most common cause of acute generalised paralysis [1]. It typically begins with fine distal paraesthesia followed by leg weakness. The weakness then extends proximally and is commonly accompanied by pain in the large muscles of the legs or back. In severe cases the disease then affects respiration, eye movements, swallowing or autonomic function. Few patients develop respiratory failure and need mechanical ventilation [2]. It has an annual incidence of 0.75–2% per 100 000 but is possibly less common in pregnancy [3]. The risk for GBS increases after delivery [4]. It is known to worsen during the post-partum period due to a rapid increase in delayed-type of hypersensitivity during this period. Relapse during successive pregnancies has been reported [5]. Only 50 cases of GBS during pregnancy have been reported because of the dramatic nature of the disease onset, diagnostic confusion and its resemblance to features of normal pregnancy [6]. The disease can occur in all trimesters. The

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occurrence of the disease in the third trimester presents a high maternal risk because of respiratory complications and risk of premature delivery [7]. To the best of our knowledge, there are no studies related to fetomaternal outcomes in pregnancy with Gullain-Barre' Syndrome (GBS) in Nepal. Therefore, we aimed to profile the fetomaternal outcomes clinically.

Materials and Methods

We did a prospective descriptive analysis of all female's cases of >16 years women of GBS with pregnancy that were admitted in the hospital between 1st August 2015 and 30th July 2016. Informed Consent was taken before enrollment in the study. Diagnosis of GBS was made by working clinician using standard clinical criteria [8]. A structured questionnaire was designed which included demographic ,obstetric ,clinical ,neonatal and neurological, parameters. All the women were followed till discharge. All obstetrics parameters were studied in detail including fetal outcome. Ethical clearance was obtained before doing the study. The collected data was entered in Microsoft Excel 2013 and converted into Statistical Software Package for Social Sciences (SPSS 11.5 version) for statistical analysis for descriptive statistics.

Results

During the period of the 1 year total number of deliveries were 5,864. Among them 16 pregnant women were diagnosed with GBS with the prevalence of 2.7\1000 deliveries . Five among them, presented postpartum GBS and therefore only 11 antenatal cases were analysed. The median age of patients were 23.7 years (range 16-43). The mean duration of symptoms on admission was 5.17 days (range 2-19 days). The mean duration of hospital stay was 9.3 days (range 7-23 days). Sensory symptoms were present in 7(65%) whereas only one patients had sensory findings on examination. No patients had extraocular muscle involvement. Only one (9%) had bilateral facial nerve paralysis. None of the women had oropharyngeal weakness. No any patient presented in first trimester, two patients (18.2%) were in second trimester, 9 (81.8%) were in third trimester. Five (45.5%) had onset of weakness in the lower limbs and rest had simultaneous weakness in both upper and lower limbs. CSF analysis of all patients showed albuminocytological dissociation universally. None of patients received intravenous immunoglobulin (IVIG) infusions because except one all patients improved with supportive care and 3 patients improved with mechanical ventilation and ICU care.Since we have no facilities for plasmapheresis, none of our patients were treated with plasmapheresis. Patient characteristics and fetomaternal outcomes are displayed in following Tables.

Table 1 Patient Characteristics

Characteristics	**N = 11 (%)**
Age in years	23.7(16-43)
Primiparous	7 (63.63%)
Multiparous	4 (36.36%)
POG at the time of presentation	
Ist trimester	0
2nd trimester	2 (18.18%)
3rd trimester	9 (81.8%)
H\0 preceding infection	7 (63.63%)
Mode of delivery	
Vaginal delivery	5 (45.45%)
Instrumental delivery	3 (27.27%)
Cesarean section	3 (27.27%)
Duration of hospital stay	9.3 days (Range 7-23 Days)
Mortality	1 (9%)

Most of the cases of GBS were Primi in 3rd trimester. Only slight above a quarter of the patients needed cesarean section. One patient died during mechanical ventilation due to ventilator associated pneumonia(VAP).

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Table 2 Clinical Presentation

Characteristics	N = 11(%)
Paraplegia	5 (45.45%)
Quadriplegia	6 (54.54%)
Absent deep tendon reflexes	9 (81.8%)
Bilateral plantar flexor response	11 (100%)
Sensory symptoms	7 (63.6%)
Bilateral facial palsy	1 (9%)

Many of the patients were quadriplegic with sensory symptoms.

Table 3 Treatment given

Characteristics	N = 11(%)
Supportive care	8 (72.7%)
IVIG infusion	None
Plasmapheresis	None
Mechanical ventilation	3 (27.2%)
Duration of symptoms on onset in days	4.12 (3-9)
Length of hospital stay in days	6 (4-20)

Most of the patients improved with supportive care and three patients needed mechanical ventilation.

Table 4 Pregnancy complications

Characteristics	N = 11(%)
Premature rupture of membrane	2 (18.1%)
Preterm labour	1 (9%)
Emergency caesarean section	1 (9%)
Elective cesarean section	2 (18.1%)
Vaginal delivery	8 (72.7%)
Postpartum hemorrhage	1 (9%)
Instrumental delivery	3 (27.3%)

Most patients had normal vaginal deliveries. Three patient needed vacuum application for prolonged second stage with poor maternal effort.

Table 5 Neonatal outcomes

Characteristics	N = 11(%)
Meconium staining liquor	3 (27.3%)
APGAR score < 7 at 5 minute	2 (18.1%)
IUGR	1 (9%)
NICU care	6 (54.5%)
Neonatal death	1 (9%)

Despite various neonatal problems, only one neonatal death occurred who died of extreme prematurity with neonatal sepsis.

Discussion

The GBS is an inflammatory demyelinating disease of the peripheral nerves. This syndrome rarely complicates pregnancy and there are only few cases which have been reported in the literature. The present study represents a selected group of patients with GBS in pregnancy in our setting. It not uncommon to see GBS with pregnancy in our hospital. Although this study is limited to one year hospital based data but still it reflects the experience and mode of the patient management in a referral center of eastern Nepal.

Alter M et al [9] found that there is age dependent increment in incidence of GBS. However, our study did not find such an association. The disease was more common in young women because the child birth rate is higher in these group of women. Another reason may be due to an increased risk of infection by cytomegalovirus and campylobacter jejuni in young age group.

Sharma et al [10] found that two third of pregnant women were primipara and 15(81.8%) women presented in third trimester whereas 1 patient in first trimester and 7 (14.89%) in second trimester. Our observations were similar to these finding as 63.6% women were primipara and most women were presented in third trimester. GBS can occur in any trimester of pregnancy and postpartum period but particularly common in third trimester [11].

Despite neurological deficits in GBS, impairment of uterine contraction is not there and vaginal delivery can be completely possible. Therefore, maternal GBS is not an indication of cesarean section and operative delivery should be reserved for obstetric indications only [12]. In our study 8(72.7%) patient underwent

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vaginal delivery,3(27.3%) of them requiring vacuum extraction for prolonged second stage with poor maternal effort.

Reports before the mid 1980 suggests that GBS in pregnancy carries a high maternal morbidity and mortality [12]. It has been reported that as many as 34.5% of women suffering from GBS during pregnancy required ventilatory support whereas our finding is more or less similar to above study 3(27.3%) and one of them died. One study [13] reported that up to 20% of patients are disabled after one year and a maternal mortality of 7%. Whereas the mortality in non-pregnant women is < 5%. Our finding corroborates with this finding with maternal mortality of 1(9%).

The management of GBS in pregnancy is similar to that in non-pregnant which includes general supportive care, intravenous immunoglobulin, plasmapheresis and mechanical ventilation whenever required. In the 30 cases reported after 1985, ventillatory support was required in 10 women (33.3%). The duration of ventillatory support reported in six cases ranged between 2 and 126 days. The availability of IVIG or plasmapheresis does not seem to be associated with a lower requirement in ventillatory support. This may be partly due to the long delay from onset of neurological symptoms to initiation of treatment. Active treatment such as plasmaphresis is more useful when given within seven days of onset of disease [14].

Our all patients were monitored in ICU. Attention was given for early identification and treatment of infective complication like urinary tract infection and chest infection. Among 11, four of them received low molecular weight heparin for prevention of deep vein thrombosis as they were having gross lower limb swelling as well. Supportive care was the mainstay of treatment in most of our patients. Supportive care included maintaining fluid and electrolyte balance, nutritional support, management of airway and respiratory infection, pain management along with physiotherapy and early mobilization. Fear of paralysis or loss of sensation was most common anxiety factors which was dealt with sympathetic counselling and psychological support.

While analyzing neonatal outcome, GBS in pregnancy usually do not affect the baby even when they delivered from mother who were quadriplegic or even being ventilated. There are many reports of deliveries of healthy babies to women with GBS at various stages of pregnancy [15]. In our study, though 6(54.5%) required neonatal intensive care for respiratory distress, 5(45.5%) of them survived but one baby died because of extreme prematurity at 30 weeks' period of gestation. In this case, we had to terminate pregnancy for worsening maternal condition. Mother improved third day onward of termination of pregnancy.

Conclusion: To conclude, although rare GBS does occur in pregnancy but can be managed successfully with good maternal and neonatal outcome by early diagnosis and prompt intensive care is provided at an early stage.

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