

Pregnancy with Preeclampsia and Bell's Palsy: An Interesting Case

Anvitha K Reddy¹, Madhva Prasad², Sujata Datti³, J Anusha⁴, Sneha Reddy⁵

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ABSTRACT

Aim: To describe a case of pregnancy with Bell's palsy in a preeclamptic woman

Background: Preeclampsia is a common obstetric morbidity, which has been studied extensively, of which neurological problems are also well known. Facial nerve palsy is usually attributed to herpetic lesions or is autoimmune in nature. An interesting case of pregnancy with Bell's palsy in a preeclamptic woman is described here.

Case description: A 20-year-old primigravida with 36 weeks gestational period, was referred to our tertiary care center in view of raised blood pressure. She had a history of cold and fever around 1½ months prior to this presentation, following which she developed weakness over left side of the face. The immediate reason for referral was the elevation of blood pressure to 150/100 mm Hg, development of proteinuria (+2 on dipstick), and ultrasound report that showed intrauterine growth restriction. She had received an injection of betamethasone 12 mg intramuscular prior to referral. Her neurological examination showed left-sided facial deviation, left-sided ptosis. In addition, tablet labetalol 100 mg twice a day was initiated. The ultrasound report showed fetal growth with an estimated fetal weight of 2260 g, amniotic fluid index of 6.7 cm, grade III maturity of placenta, and reduced cerebroplacental ratio (1.06). After the induction of labor, due to intrapartum monitoring showing fetal heart decelerations, an emergency lower segment cesarean section was performed.

Conclusion: Though Bell's palsy is commonly reported to occur in the background of chronic hypertension and obesity, it can occur in an otherwise low-risk patient. Occurrence of Bell's palsy may be the precursor toward the development of a preeclamptic state.

Clinical significance: Occurrence of Bell's palsy should raise the obstetrician's level of vigilance towards maternal/fetal surveillance.

Keywords: Bell's palsy, Case report, Intrauterine growth restriction, Preeclampsia, Small for gestation.

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BACKGROUND

Preeclampsia is a common obstetric morbidity, which has been studied extensively and has very many documented complications, of which neurological problems are also well known. However, cranial nerve palsies are not common. Facial nerve palsy is usually attributed to herpetic lesions or is autoimmune in nature. An interesting case of pregnancy with Bell's palsy in a preeclamptic woman is described here. The association between these two conditions is explored.

CASE DESCRIPTION

A 20-year-old primigravida with 36-week gestational period was referred to our tertiary care center in view of raised blood pressure. At 35 weeks of gestation, a blood pressure of 140/80 mm Hg was noted for which no antihypertensives had been started.

She had a history of cold and fever around 1½ months prior to this presentation following which she developed weakness over the left side of the face, for which she had taken steroid (T. Prednisolone 10 mg for 5 days), antibiotic (amoxicillin 500 mg 5 days), lubricant eye drops, and facial muscle exercise. She continued to have residual weakness in the face but was otherwise comfortable. The immediate reason for referral was the elevation of blood pressure to 150/100 mm Hg, development of proteinuria (+2 on dipstick), and ultrasound report that showed intrauterine growth restriction. She had received an injection of betamethasone 12 mg intramuscular prior to referral.

¹⁻⁵Department of Obstetrics and Gynaecology, VIMS and RC, Bengaluru, Karnataka, India

Corresponding Author: Anvitha K Reddy, Department of Obstetrics and Gynaecology, VIMS and RC, Bengaluru, Karnataka, India, Phone: +91 8971092879, e-mail: anvithambbs@gmail.com

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She was perceiving good fetal movements and did not have any abdominal pain or any features of severe preeclampsia.

On admission, she was well-oriented. A pulse of 80 beats per minute and blood pressure of 150/100 mm Hg were noted. Cardiovascular and respiratory systems were unremarkable.

Neurological examination showed left-sided facial deviation, left-sided ptosis (Fig. 1), suggestive of right 7th cranial nerve palsy. Other cranial nerves were within normal limits. No other neurological abnormality was detected. On abdominal examination, uterine size was 32 weeks size, cephalic presentation, fetal heart rate of 144 bpm with no uterine activity were observed. The urine albumin dipstick was reconfirmed to be 2+. In addition, tablet labetalol 100 mg twice



Figs 1A and B: Left-sided facial deviation and left-sided ptosias

a day was initiated. Ultrasound showed fetal growth estimated fetal weight of 2260 g, amniotic fluid index of 6.7 cm, grade III maturity of the placenta, and reduced cerebroplacental ratio (1.06). Hematological, biochemical reports, and coagulation parameters were within normal limits. Neurologist's opinion was taken in view of Bell's palsy was advised tablet multivitamins and facial exercises. After induction of labor, due to intrapartum monitoring showing fetal heart decelerations, an emergency lower segment cesarean section was performed resulting in a live male baby of 2.04 kg with Apgar score of 8/10 and 9/10. The postoperative period was otherwise uneventful, and antihypertensives were stopped on the fourth postoperative day. The patient was discharged on the fifth postoperative day with advice to review with neurologists and physiotherapists.

DISCUSSION

Bell's palsy is a type of facial paralysis, which is temporary in nature and leads to unilateral facial weakness. The facial nerve (7th cranial nerve) provides neurological supply to the face, tear glands, eyes, small bones of middle ear, and salivary glands. It also plays a role in taste sensation. Facial paralysis is mostly idiopathic. An important reason attributed is the viral reaction, most commonly the herpes group of viruses. Infection and subsequent inflammation and the resultant edema can cause facial palsy. The unique anatomical passage through narrow bony canals predisposes to the condition. It is well known that there are many physiological changes in pregnancy, and these are exacerbated in preeclamptic states, which may further predispose to Bell's palsy. The extracellular fluid movement and edema which explain Bell's palsy as a consequence of hypertensive disorders have been studied.¹

However, this case, wherein Bell's palsy occurred first and the preeclamptic disorder showed up later bears similarity to the case reported by Aditya et al. In this case report from an Indian setting, a patient with Bell's palsy landed up with preeclampsia with severe morbidity. However, fortunately, our case had a benign course.² The occurrence of Bell's palsy (estimated to be around 40 per 100,000 pregnant women) is much higher compared with non-pregnant women. The occurrence is higher in the third trimester and also during the postpartum period. While our patient showed features in the third trimester, there was no postpartum exacerbation.

While our patient showed signs of partial recovery within a month of initial presentation, cases of permanent neurological paralysis have also been reported. Katz et al. estimated the prevalence to be around 17.34 per 100,000 deliveries. In their case-control study, the risk factors noted were chronic hypertension (odds ratio 6.69) and maternal obesity (odds ratio of 9.08). Among patients with Bell's palsy, severe preeclampsia (odds ratio of 9.46) and cesarean delivery (9.5% vs 1.1%) were much higher. However, Apgar score and perinatal mortality were similar to the control group.³ However, case series from other locations have not shown an association between Bell's palsy and preeclampsia. For example, Leelawai et al. have concluded that the association between these two conditions remains inconclusive. This is one of the reasons for presenting the current case.

Standard management of Bell's palsy in non-pregnant women includes steroids and antiviral drugs, such as acyclovir or valacyclovir.⁴ However, in our case, the steroids had been started almost 4 days after the initial symptomatology of the patient (due to late reporting to the physician) and this patient had not received any antiviral drugs. While the same principles are applied in pregnancy also, it has been reported that a higher dose of prednisolone leads to better recovery. It is also noted that early initiation of steroid therapy (<48 hours) leads to faster recovery. The lack of complete recovery of facial palsy even 4 weeks after the presentation was worrisome. However, neurologists suggested a good prognosis and no specific intervention, apart from physiotherapy. Whether the physician who initially managed the case delayed the start of steroids and avoided antivirals due to the presence of pregnancy is not known. Whether such delay contributed to delayed recovery of the facial palsy may be worth pondering over.

Our patient was referred to us at an appropriate time. She seemed to be progressing toward a worsening course, before which intervention was performed. A delay in such intervention could have been catastrophic, as described by Aditya et al.

CONCLUSION

Though Bell's palsy is commonly reported to occur in the background of chronic hypertension and obesity, it can occur in an otherwise low-risk patient also. Occurrence of Bell's palsy may be the precursor toward development of a preeclamptic state.

Clinical Significance

Occurrence of Bell's palsy should raise the obstetrician's level of vigilance toward maternal/fetal surveillance.

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