Recurrent Bell's Palsy in pregnancy

F. O. Ofosu-Barko, *MD, FICS, FWACS*
Department of Obstetrics & Gynaecology
School of Medical Sciences
University of Science and Technology
Kumasi,Ghana

ABSTRACT

The first to note a possible association between Bell's palsy and pregnancy was Sir Charles Bell in 1830. However the incidence of recurrence of Bell's palsy during successive or alternate pregnancies is unknown. This paper presents Bell's palsy recurring in two alternate pregnancies in a 26 year old Ghanaian trained teacher. Included in this presentation is a synopsis of aetiological considerations and a discussion of current therapeutic options, especially highlighting the risk of corticasteroids given during pregnancy.

KEYWORDS: *Bell's palsy, Mononeuropathy; Herpes simplex reactivation, Corticosteroids, Pregnancy.*

INTRODUCTION

The first to note a possible association between Bell's palsy and pregnancy was Sir Charles Bell in 1830. At that time, Bell's palsy was defined as a mononeuropathy of the seventh cranial nerve of sudden onset and unknown aetiology. However, during the last two decades, Bell's palsy has been redefined as a viral polyneuritis, probably caused by herpes simplex reactivation, and its diagnosis is no longer made by exclusion. Recurrence of Bell's palsy is extremely uncommon. (1) (2)

Since the observation of Sir Charles Bell, many authors have reported a higher incidence of Bell's palsy in pregnancy. (2) (3). However in the literature, the incidence of recurrence of Bell's palsy during successive or alternate pregnancies is unknown.Only one case of recurrent Bell's palsy occurring in two successive pregnancies has been reported. (4)

In this paper a presentation of a Bell's Palsy recurring in two alternate pregnancies in a 26 year old Ghanaian trained teacher is made. Included in this presentation is a synopsis of aetiologic considerations and a discussion of current therapeutic options, especially highlighting the risk of corticosteroids given during pregnancy.

CASE REPORT

A 26-year old pregnant woman, gravida 4 para 3, a trained teacher by profession, complained of a one - day history of mild jaw and ear pain associated with no fever. Her husband noted her to limit chewing on the left side and to have a crooked smile. She further complained of loss of taste, inability to close her left eye, wrinkle her left forehead and a slurred speech of 24 hours duration. (See Fig. 1 & 2)

The onset was sudden and not associated with other symptoms such as sore throat, cough, fever, ear discharge or hearing loss or skin rash. Gynaecological and Obstetrical examination revealed that she was 29 weeks pregnant, fundal height corresponding to the period of amenorrhoea. She had a left-sided lower motor neurone seventh cranial nerve palsy. Other neurological examinations, showed no pathological finding.

A live, healthy male baby was born by vaginal delivery at full term. The patient has two other healthy children by her three previous pregnancies. Her first pregnancy at the age of twenty (20) was full term and uneventful. During the second pregnancy she developed Bell's Palsy at the 11th week. Because of the early stage of her pregnancy she was not given steroids. She improved remarkably in 3 months with only physiotherapy treatment (facial exercises, short wave therapy and electrical stimulation). She aborted in the 3rd pregnancy in the 9th week when she was 24 years old.

It was during the fourth pregnancy at the age of 26 when she suddenly developed her current Bell's palsy in the 29th week of pregnancy described above. See picture 1. Both palsies were left sided. No precipitating factor was detected. The pregnancy progressed to full term, and a healthy male baby was born in spite of the corticosteroid treatment. See picture 2. She recovered completely from the palsy 7 - 8 weeks after treatment.

Dr. F. O. Ofosu-Barko

MANAGEMENT:

Because of the late stage of her pregnancy it was decided to give minimum doses of steroids and antibiotics

(A) Treatment regimen of the steroid used (Hydrocortisone):

The initial dose of hydrocortisone was 100mg/day, then tapered over a 5 day period as shown below with injections.

1st Day injection 100mg Hydrocortisone

2nd Day injection 80mg Hydrocortisone

3rd Day injection 60mg Hydrocortisone

4th Day injection 40mg Hydrocortisone

5th Day injection 20mg Hydrocortisone

(B) Antibiotics:

The use of antibiotics is advisable to prevent secondary infections. Intramuscular penicillin (benzyl) 2 mega units immediately followed by procaine penicillin 0.6 mega units once daily for 5 days was used.

(C) After the first week treatment was continued with oral prednisolone tablets as follows:

Tabs. Prednisolone	5mg qid	* 3
" "	5mg tds	* 3
" "	5mg bd	* 3
" "	5mg dly	* 6

This was supported with multivites for a period of 14 days.

(D) Facial Muscle Exercise

(E) Electrical Stimulation

(F) Short Wave Therapy

DISCUSSION

Bell's palsy is the commonest cause of a unilateral seventh cranial nerve paralysis. However a unilateral paralysis along the facial nerve or its nucleus could be due to a variety of causes: the nerve palsy could be part of distinct clinical entities or syndromes such as:

(a) Ramsay-Hunt syndrome - Herpes zoster oticus

(b) Sarcoidosis

(c) Herfordt's syndrome and

(d) Melkerson Rosenthal syndrome

(e) Tumours - including

(i) Cerebellopontine angle tumor

(ii) Acoustic neuroma
(iii) Facial nerve neuroma
(iv) Parotid gland malignancy

(f) Surgical trauma

(g) Temporal bone fracture

(h) Guillain - Barre Syndrome

A more common cause of facial nerve paralysis in the Tropics is due to middle ear infection, leading to mastoiditis. (5) Our patient presented with a lower motor neurone facial paralysis with a sudden onset, during the third trimester of pregnancy. A diagnosis of Bell's palsy considering the history, physical examination and the otolaryngological status was made. Though in the past, Bell's palsy has been defined as a mononeuropathy of sudden onset and unknown actiology, available data in the current literature support the viral aetiology, caused by reactivation of the herpes simplex virus. Many theories have been developed as to the increase in incidence of Bell's palsy during pregnancy. It has been stipulated by Hilsinger (2) that as the pregnancy advances, the cortisol levels increase and this causes immunosuppression. This lends support to the suggestion that the Herpes Simplex Virus is reactivated. This hypothesis is buttressed by the fact that 100 percent of the patients with Bell's palsy have evidence of previous infection with Herpes Simplex Virus. (1)

Indeed the patient admitted having contacted a previous Herpes Simplex infection during the first pregnancy. However if one is to accept the hypothesis of immunosuppression, - leading to reactivation of Herpes Simplex Virus as the aetiology of Bell's palsy, a higher incidence of Bell's palsy during the third trimester should be expected. Indeed this has been confirmed by the observations of Hilsinger et al (2). However the recurrence of Bell's palsy remains improperly understood. Data from the existing literature make it extremely difficult to

Fig.1: Left lips immobile during smile.

Fig.2: Left eye cannot be closed.

Fig.3: Smiling mother after delivery; Lips symmetrically mobile.

Fig.4: All muscles of facial expressions now fully functional.

establish the true incidence of recurrence of Bell's palsy.

Hilsinger et al (2) calculated the frequency of Bell's palsy in pregnant women as 45 per 100,000 births and 17,4 per year for non-pregnant women. They concluded that the risk of a pregnant woman developing idiopathic facial paralysis was 3,3 times the risk of non-pregnant women of the same age.

Deshpande (4) in 1990 was the first to report of a recurrent Bell's palsy occurring in two successive pregnancies in a 27 - year old woman. Our presentation documents also for the first time a recurrent Bell's palsy occurring in two alternate pregnancies in a 26 year old Ghanaian teacher.

Ever since Bell's palsy was first described, several treatments have been tried in an effort to influence early full recovery. Supportive Therapy and corticosteroids are still the mainstay of Bell's palsy management. Despite the small doses given, there is still some element of risk involved in the use of corticosteroids given during pregnancy. (6) (7) It has been reported to cause congenital anomalies like cleft lip and cleft palate in the fetus. (7) (8) This risk according to Clayton (8) can be safely ignored with doses of 100 milligram of cortisone or 20 milligram of prednisolone daily.

Although the definite study to improve the statistical value of steroids has not yet been done, several prospective and retrospective studies seem to strongly suggest that steroids do benefit patients. (8) Although treatment of Bell's palsy with steroids still remains controversial, our case in question showed a dramatic speedy recovery with the use of steroids, still using the small doses in our regimen.

In summary, to help alleviate patients' concern and anxiety, and to do something for the patient, steroid use is often considered appropriate, provided accepted and tested regimen are used with utmost care.

CONCLUSION

Bell's palsy is certainly not uncommon in pregnancy. General practitioners, and House Physicians are advised to request a referral for careful and proper management by the specialist when they do occur in pregnant women. The use of steroids must carefully be determined by an Obstetrician Specialist to avoid long term complications of corticosteroids in pregnancy like congenital heart disease, and other congenital abnormalities such as cleft lip and palate. Finally this paper documents the second recorded recurrent Bell's palsy in pregnancy according to the existing literature.

REFERENCES

1. Adour, K.K. Hilsinger R.L. Jr. Byl FM: Herpes Simplex Polyganglionities. Otolaryngol Head, Neck Surg. 88: 270-274, 1980.
2. Adour, K.K. Prednisone treatment for idiopathic facial paralysis N. Engl. J. Med.; 287: 1268-72, 1972.
3. Brobbey, G.W. Peculiarities of middle ear infections in Ghana, Gh. Med. Journal Vol.22 No.3 68-73, 1988.
4. Deshpande - AD; Recurrent Bell's palsy in pregnancy, J - Laryngol Otol; 104 (9): 7.3-4, 1990.
5. Hilsinger, RL. Idiopathic facial paralysis, pregnancy and the menstrual cycle. Ann. Otol. Rhinol Laryngol; 84, 433-42, 1974
6. May, M. The use of steroids in Bell's palsy; a prospective controlled study. Laryngol 86: 1111-22, 1976.
7. McGovern, F.H. Observations in 160 patients with peripheral facial paralysis Laryngoscope;88: 1972-38, 1978.
8. Taverner, D. Comparison of corticotrophin and prednisolone in the treatment of Bell's palsy. Br. Med. J. 4: 20-22, 1971.