Prolactinoma during pregnancy causing compression symptoms responding to bromocriptine therapy

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Summary: A woman with pituitary macroadenoma causing pressure symptoms and a partial right third cranial nerve palsy during pregnancy is described. Complete resolution occurred using oral bromocriptine therapy alone and the remainder of the pregnancy was uneventful.

Introduction

The management of complications caused by an enlarging pituitary prolactinoma during pregnancy remains controversial. When fetal maturity has been attained, then induction of labour and delivery will usually induce remission of symptoms. Problems occurring earlier in pregnancy have in the past been dealt with by transsphenoidal removal of the tumour. Although the results of surgery during pregnancy are good (Magyar & Marshall, 1978), recent reports have suggested that medical treatment with bromocriptine (Van Roon et al., 1981; Crosignani et al., 1984) will cause regression of such tumours during pregnancy and thus obviate the need for operation. This sequence of events is described in a patient who first presented to the North Manchester General Hospital in 1978.

Case report

A 25 year old white woman patient presented in 1978 with a 5 year history of secondary amenorrhoea. Her menarche had occurred at the age of 13 and subsequently menses had been irregular, occurring 1 to 18 months apart. Between the ages of 18 and 20 she had been given a combined oral contraceptive preparation which resulted in regular menses. Following cessation of this preparation, no further menses occurred.

A skull X-ray revealed an abnormal appearance of the pituitary fossa with erosion of the dorsum sellae and undercutting of the anterior clinoids and consequently she was referred to a neurosurgical clinic. No further abnormality was found on physical examination and there was no galactorrhoea. Serum prolactin was at 4,800 mU/l (normal range up to 360 mU/l). An ‘amipaque’ cisternogram showed no evidence of suprasellar extension of the pituitary tumour. Computerized tomography (CT) showed the possibility of right lateral parasellar extension of the tumour. There was a normal pituitary response to thyrotrophin releasing hormone.

Treatment with bromocriptine was commenced and the patient was advised to avoid pregnancy by using barrier methods of contraception. By April 1979 (4 months later) she was receiving 10 mg/d of bromocriptine in divided doses, serum prolactin had fallen to 80 mU/l (in the normal range) and regular menstruation was occurring.

In February 1980 the patient experienced 8 weeks of amenorrhoea despite bromocriptine therapy. A pregnancy test was positive and on her own initiative the patient stopped the bromocriptine therapy as she was worried about possible teratogenic effects.

In March 1980 the patient was admitted as an emergency to a medical ward with a 3 week history of frontal headaches, blurring of the vision in the right eye and drooping of the right eyelid. It was since stopping the drug that the symptoms had commenced. The only abnormality on examination was a right sided ptosis. Visual field examination was normal using visual field charts. There was a mass arising from the pelvis compatible in size and shape with a 14 week gravid uterus and an ultrasound scan revealed the presence of a singleton pregnancy with a biparietal diameter corresponding to 14 weeks gestation. The prolactin level at that stage was 2566 mU/l.

Bromocriptine therapy was reinstituted at a dose of 7.5 mg/d and the patient’s headaches ceased, her visual symptoms resolved and the right sided ptosis resolved on recommencing treatment within 3 d. She continued on the drug treatment during pregnancy without further problems and had a normal delivery at 39 weeks gestation of a healthy female infant weighing 4,800 mU/l.
2,700 g. The puerperium was uneventful and the patient lactated despite the bromocriptine therapy. The patient continued the bromocriptine therapy post-natally and menstruation occurred within 2 months.

Subsequent CT scans have shown no abnormality and repeated visual field examinations have been normal.

Discussion

The evidence in this case suggested that the patient had a prolactin-secreting pituitary tumour. Bromocriptine therapy enabled conception, but during the pregnancy tumour enlargement gave rise to pressure symptoms and a partial right third cranial nerve palsy. Of special interest is the fact that symptoms occurred shortly after stopping the bromocriptine therapy and were then alleviated (again rapidly) by recommencing the drug.

Animal studies originally suggested that bromocriptine could reduce the mitotic activity of pituitary lactotrophs (Lloyd et al., 1975) and reduce the growth of experimental tumours (MacLeod & Lehmeier, 1973). In recent years, several reports have indicated that shrinkage of pituitary tumours occurs in humans with this form of therapy (McGregor et al., 1977; Prescott et al., 1982). Medical treatment with bromocriptine has been recommended should tumour complications occur during pregnancy as an alternative to emergency neurosurgical decompression (Gemzell & Wang, 1979) and the case described in this report provides further evidence of the effectiveness of such a course of action. Some authors have expressed the view that bromocriptine should be used with caution during pregnancy (Divers & Samuel, 1983).

However, a recent survey of 1410 pregnancies exposed to the drug is encouraging in as much as there appears to be no increased risk to the fetus (Turkalj et al., 1982).

Evidence is now accumulating that tumour complications during pregnancy respond quickly to bromocriptine and the case described in this report provides further confirmation of the effectiveness and apparent safety of this course of action.

References


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