SUCCESSFUL PREGNANCY IN HYPERPROLACTINAEMIC WOMEN

L. Seshadri • P. Jairaj • T. Joseph • M.J. Chandy • M.S. Seshadri

SUMMARY

Hyperprolactinaemia is a common cause for secondary amenorrhoea and infertility and accounts for about 20% of women with secondary amenorrhoea. With the advent of transphenoidal surgery and bromocriptine therapy, most of these patients can be managed successfully and fertility can be restored. In this report we describe 5 patients who were successfully treated with surgery and bromocriptine in a teaching institution. Therapy resulted in cessation of symptoms and restored fertility in each case.

Introduction

With the development of radioimmunoassays for prolactin, it has been found that a good proportion of patients who were considered to have non-secreting pituitary tumours have in fact prolactin-secreting tumours. In different centres the proportion of women with secondary infertility who have hyperprolactinaemia ranges from 10-40 percent (Archer, 1987). Our experiences with the treatment of hyperprolactinaemia are described in this paper.

Patients Studied and Methods

Five patients with age ranging from 25-32 years are identified to have hyperprolactinaemic amenorrhoea. The clinical features of these patients are summarised in Table I. Thyroid function tests and TSH were normal in each patient excluding hypothyroidism as a cause for hyperprolactinaemia. There was no history of ingestion of drugs which could have caused hyperprolactinaemia in these women. Visual fields by Goldman perimetry were normal in each patient.

The mode of treatment and the outcome of treatment in these patients are tabulated Table II.

Serum prolactin levels were measured serially in patients 3,4 and 5 during pregnancy. The results are shown in Table III. The prolactin levels during pregnancy in these patients remained in the normal range for pregnant women even though bromocriptine had been discontinued as soon as pregnancy was confirmed. In patent 1, since surgery was curative and since post-operative prolactin levels were nor-

*Department of General Medicine and Endocri-
. Christian Medical College, Vellore.*
Accepted for publication on 15/3/1990.

TABLE - I
CLINICAL FEATURES OF PATIENTS STUDIED

Name	Age	Duration of amenorrhoea	Galactorrhoea	Prolactin ng/ml	FSH mIU/ml	LH	CT Scan
1. P.	26	8 years	++	650	8.2	5.2	Tumour occupying the sella.
2. V.B.	29	6 years	++	>200	—	—	2-3 mm microadenoma
3. P.N.	25	Irregular periods 5-6/90-150	++	240	8.6	9	Normal
4. S.	32	12 years	++	222	8.1	8.4	Erosion of sellar floor
5. E.J.**	25	8 months	+	44	2.5	5.4	—

** Patient E.J. also had hirsutism, elevated testosterone (1.4 ng/ml), elevated DHEAS (580 mg/dl) and elevated 17 hydroxyprogesterone (3.3 ng/ml) and was therefore diagnosed to have late onset 21 hydroxylase deficiency in addition.

TABLE - II
MODE OF TREATMENT AND OUTCOME

Name	Transphenoidal Adenomectomy	Post opprolactin	Bromocriptine (Dose)	Time to restoration of prds.	Time to conception
1. P.	Pituitary adenoma	17.1 ng/ml	—	2 months	10 months
2. V.B.	Pituitary adenoma	720 ng/ml	2.5 mg t.i.d.	—	8 months (conceived without restoration of cycles)
3. P.N.	No surgery	—	2.5 mg tid	4 months	5 months
4. S*	No surgery		2.5 mg tid later 5-5-2.5	4 months	10 months
5. E.J.**	No surgery		2.5 mg tid	2 months	3 months

* Patient 4 required clomiphene for induction of ovulation since she did not conceive even after serum prolactin became normal.

** Patient 5 was concurrently treated with prednisolone 5 mg at 7.00 a.m. and 2.5 mg at 7.00 p.m. for late onset 21 hydroxylase deficiency.

mal, serial prolactin estimations were not carried out during pregnancy. In patient 2, a single prolactin estimation done at 6 months gestation was 1356 ng/ml.

TABLE - III
SERIAL PROLACTIN LEVELS DURING PREGNANCY

		Prolactin level		
		3 months	6 months	9 months
1.	P.N.	33.3	370	172
2.	S	303	24.8	—
3.	E.J.	200	158	306

Visual fields were assessed once in 3 months in all patients. None of them developed visual field defects or significant headaches during pregnancy.

All the five women delivered live term infants. Patients S and E.J. were delivered by Caesarean section since both of them developed gestational diabetes and pregnancy induced hypertension. The other three women delivered normally. All patients had normal lactation. Patient V.B. has been restarted on bromocriptine since prolactin levels were high 1 year after delivery. The others are not on any medication, and are menstruating normally. Patient P who had been cured by surgical treatment has had an uncomplicated, successful second pregnancy.

Discussion

In this paper we have described our experiences with patients who have hyperprolactinaemia in whom surgical and/or medical treatment was successful. Our study shows that the successful management of these patients requires a team effort. The natural history of untreated hyperprolactinemia has been studied carefully (Schlechte et al, 1989) and it appears that it is a relatively benign disorder. In a prospective study of 30 untreated patients, Schlechte et al found that serum prolactin spontaneously declined in 18, and increased in 12 over a 5 year period. Of 14 patients who did not have any radiologic or CT scan abnormality only 4 developed features of microadenoma at 5 years. In 13 patients who had a microadenoma at initial diagnosis, ther were no changes in size on follow up in 9 patients, whereas in the remaining 4 patients, the lesion regressed spontaneously.

Even during bromocriptine induced pregnancy only an occasional patient shows evidence of an expending pituitary lesion regardless of whether they have microprolactinomas (Archer, 1987 and Jewelewicz, 1980) or macroprolactinomas (Bergh et al, 1982). Therefore it has been argued that the initial treatment should be medical rather than surgical. However, patients who present with visual field defects should probably be subjected to surgery initially (Archer, 1987).

On the other hand, transphenoidal surgery results in normal prolactin levels in 70-85% of patients with microprolactinomas and in about 30% of patients with macroprolactinomas (Serri et al, 1983 and Rodman et al, 1984). However, long-term follow up of such patients has shown that about 50% of patients with microadenoma and a larger proportion of patients with macroadenoma have delayed recurrence of hyperprolactinemia at 5-7 years after surgery (Rodman et al, 1984). These recurrences are difficult to predict on the basis of postoperative prolactin levels. Since transphenoidal surgery offers a cure for about 50% of patients at 5 years, and since bromocriptine is an expensive drug, it may be considered a useful first step in some cases as in patient P in the present study.

During pregnancy, careful monitoring of visual fields will permit early detection of tumour enlargement. However none of our patients had any abnormality of vision during pregnancy and clinically evident tumour expansion appears to be the exception rather than the rule (Archer, 1987, Jewelewicz, 1980 and Bergh et al, 1982). In our patients serial prolactin estimations showed normal values (for pregnancy). Even though serial prolactin levels may give some indication of the tumour size, it is difficult to interpret high prolactin levels during pregnancy, and the clinical usefulness of this approach is limited (Archer, 1987).

In some patients hyperprolactinemia can coexist with other abnormalities which may cause secondary amenorrhoea. In patient 5 in the present report, there was definite biochemical evidence of late onset 21 hydroxylase deficiency which necessitated concomitant replacement therapy with corticosteroids.

References

1. *Archer D.F.: Clin. Obstet. Gynec. 14:979, 1987.*
2. *Bergh T., Nillius S.J., Enoksson P., Larsson S.G., Wide L.: Clin. Endocrin. 17:625, 1982.*
3. *Jewelewicz R., Vande Wiele R.L.: Am. J. Obstet. Gynec. 136:339, 1980.*
4. *Rodman E.F., Molitch M.E., Post K.D., Biller B.J., Reichlin S.: Jama 252:921, 1984.*
5. *Schlechte J., Dolan K., Sherman B., Chapler F., Luciano A.: J. Clin. Endocrin. Metab. 68:412, 1989.*
6. *Serri O., Rasio E., Beaure Gard H., Hardy J., Somma M.: New Eng. J. Med. 309:280, 1983.*