Case Report

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Continuous Bromocriptine Treatment of Empty Sella Syndrome Aggravating Pregnancy

A Case Report

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Key Words

Empty sella syndrome

Pregnancy complication

Continuous bromocriptine treatment

Abstract

Pregnancy, aggravated by hyperprolactinaemic empty sella syndrome, is a risky and rare event. A case with such complication and continuous bromocriptine treatment during the whole gestation is presented. Neither fetal abnormalities nor deterioration of maternal pituitary pathology or the course of gestation are observed.

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Introduction

Hyperprolactinaemia impairs the hypothalamic-pituitary-ovarian axis at different levels, resulting in menstrual disorders and infertility. It is generally due to hypophyseal prolactin (PRL) secreting micro- or macroadenomas or is of idiopathic origin [1–3]. The empty sella syndrome (ESS), where the major part of the pituitary tissue is replaced by cerebrospinal fluid, is also often associated with hyperprolactinaemia [3].

The purpose of this paper is to present a case of ESS aggravating a pregnancy, treated continuously during the whole gestation with bromocriptine (BRCR). Such a combination is very rare and uninterrupted treatment of the hyperprolactinaemia with BRCR during pregnancy is still very disputable.

Case Report

A 32-year-old multigravida, nullipara (case No. 1671/1989) in the 8th week of her 7th gestation was admitted in the District Hospital of Targoviste because of vaginal bleeding and low abdominal pain. Menarche at the age of 14 was followed by regular menstruations. In her early twenties 4 subsequent pregnancies were interrupted artificially. After that oral contraception was started but suspended 1 year later as galactorrhoea appeared. Elevated serum PRL levels – 65 ng/ml – and secondary amenorrhoea were established. Computerized axial tomography revealed an empty sella turcica. BRCR (Parlodel – Sandoz) therapy was started (5 mg daily) and return of regular menstruations and normoprolactinaemia were soon achieved. She married at the age of 28 and conceived twice but both pregnancies were unsuccessful: 2 spontaneous abortions took place – in the 8th and in the 22nd week of gestation. In both cases the continuous BRCR treatment was interrupted as soon as pregnancy was confirmed.

On admission the patient's general condition was good. Bimanual palpation revealed a sensitive uterus corresponding to the amenorrhoea with opened cervical canal and no effacement. As the

patient refused cerclage, spasmolytic therapy was started and prolonged till delivery. Because of the patient's conviction that BRCR discontinuation was the cause for the 2 previous abortions and after her written consent the Parlodel medication was not suspended. Peroral tocolytic therapy (Partusisten – Boehringer) was added at 16 weeks' gestation.

Pregnancy course was uneventful and no laboratory alterations were detected except low for gestation serum PRL levels. Some bleeding episodes occurred and therefore magnesium sulphate infusions were introduced twice. Regular ultrasound scanning of the fetus was performed once monthly. At 30 weeks' gestation premature labour started and a 980-gram/33-cm growth-retarded boy was born. The placenta showed large areas with ischaemic infarctions, calcifications and fibrosis. The neonate had some complications successfully treated in the first weeks of his life: i.e. respiratory distress syndrome, jaundice and anaemia. After 59 days in the intensive care unit the infant was discharged healthy and regularly visited by a paediatrician. One year after birth the boy presented no physical or mental deviations from the normal. His serum PRL levels were measured at delivery from the umbilical cord, twice in the 1st month after delivery and in the 8th month. Maternal puerperium was uneventful, with continuation of BRCR treatment and therefore without lactation.

Maternal and neonatal blood for serum PRL estimation was drawn from the antecubital vein at 8.00 a.m. after at least 6 h starvation and 1 h bed rest. All results are presented in table 1.

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Table 1. PRL levels in mother and newborn (ng/ml)

Before treatment	Pregnancy	Pregnancy	Delivery
pregravid	I trimester	II trimester	
10 days	30 days	8 months	
postpartum	postpartum	postpartum	

2–20

Discussion

The presented clinical and laboratory data disclose a course of pregnancy aggravated by ESS, continuously treated with BRCR. In that relation the elucidation of the following problems is required: (1) the influence of the pregnancy on the pituitary pathology causing the hyperprolactinaemia; (2) the effect of BRCR on the course of pregnancy and labour, and (3) the influence of continuous BRCR treatment on fetal development and state. It seems that uninterrupted BRCR medication during pregnancy is safe for the mother as it prevents further enlargement of pituitary adenomas [4, 5]. Clinically important maternal problems in untreated hyper-prolactinaemic pregnant patients have been detected in 5.5 % of the cases with microadenomas and in about 20% of the cases with macroadenomas [6]. No comparable data concerning pregnancy aggravated by ESS are available so far.

Elevated serum PRL levels may exert an inhibitory effect on corpus luteum graviditatis function [5, 7], disturbing the normal course of early pregnancy, because of suppressed ovarian steroidogenesis. Untreated hyper-prolactinaemic pregnant women have lower serum progesterone and hCG levels in comparison with those treated with BRCR [4]. On the other hand it is unlikely that PRL may be involved in labour 'triggering', so BRCR medication during gestation cannot influence the onset of parturition. The role of PRL in fetal development and

state is not completely clarified. There are data indicating that fetal PRL is combined in fetal lung maturation, with stimulation of surfactant synthesis and fetal adrenal steroidogenesis [8]. In the few reported cases of pregnancies treated continuously with BRCR, however, no fetal respiratory distress syndrome in term deliveries has been established [5, 8]. There are no convincing data about a possible teratogenic effect of BRCR in humans despite the results obtained with very large doses of Parlodel in experimental animals [6]. So the presented case is a small contribution to the problem of hyperprolactinaemic ESS aggravating pregnancy and throws some light on the effect of uninterrupted BRCR treatment on the course of gestation and fetal development.

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