J. Inherit. Metab. Dis. 28 (2005) 787–788
DOI: 10.1007/s10545-005-0018-9

CASE REPORT

Successful pregnancy outcome in a patient with Fabry disease receiving enzyme replacement therapy with agalsidase alfa

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Summary: Fabry disease is an inherited lysosomal storage disease caused by deficiency of α-galactosidase A. Enzyme replacement therapy for this multisystem progressive disease has been available only since 2001. We here report the first known successful pregnancy of a female patient receiving such therapy.

Fabry disease (McKusick 310500) is an X-linked inherited lysosomal storage disorder caused by a deficiency of α-galactosidase A, leading to toxic accumulation of globotriaosylceramide in all tissues and organs. Females can be clinically affected as well as males (MacDermot et al 2001). Reproductive age is commonly reached and childbearing is frequently desired, with the need for appropriate counselling and careful obstetric surveillance.

Enzyme replacement therapy (ERT) has been available for 3 years in patients with Fabry disease, and the initial results of treatment in women have now been published (Baehner et al 2003). However, there have been no reports on the safety of ERT in pregnancy. In Gaucher disease, continuing ERT during pregnancy had no negative side-effects on the mother or the unborn child, was well tolerated and maintained the therapeutic response that was achieved before pregnancy (Elstein et al 2004).

We present a 34-year-old woman who was diagnosed with Fabry disease at the age of 15 years. Since adolescence, the patient has suffered from joint pain, with morning joint stiffness and swelling, as well as intermittent episodes of fever. Gastrointestinal symptoms (diarrhoea and cramps) started 6 years ago and now occur monthly. The patient showed mild proteinuria (449 mg/day) and also complained of fatigue and decreased physical and mental capacity. ERT with agalsidase alfa (0.2 mg/kg every 2 weeks infused over 40 min) was initiated 18 months before pregnancy. After the pregnancy was confirmed, the patient requested continuation of ERT and accepted responsibility for the outcome. During pregnancy, the patient was followed closely at the Department of Metabolic Diseases and by her obstetrician. The dose and frequency of intravenous enzyme substitution remained unchanged throughout pregnancy. Clinical evaluations showed no decline in the course of the disease.

All evaluations according to the standardized follow-up of pregnancy in Germany were performed and revealed no abnormalities. Additionally, molecular and biochemical analysis of α-galactosidase in amniotic cells showed a normal male karyotype and normal enzyme activity. The fetus was therefore not expected to be affected by Fabry disease.

At a gestational age of 37 weeks, the patient gave birth to a healthy boy (birth weight 3010 g, birth length 52 cm, head circumference 32 cm, Apgar 9/10/10) after an uneventful pregnancy.

In conclusion, ERT with agalsidase alfa during pregnancy seemed to be well tolerated, with no negative effects on the mother or child. In our opinion, pregnancy should not be a contraindication for ERT. Further investigations and more experience of treating patients with Fabry disease during pregnancy, however, are required to achieve optimal benefit with minimal risk.

C. Whybra is recipient of the NORD Roscoe'O Brady Fellowship. M. Beck receives a scientific grant from TKT 5S and Genzyme Co.

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