Pregnancy Data from the BG-12 (Dimethyl Fumarate) Development Program


INTRODUCTION

- Oral BG-12 (dimethyl fumarate) is approved in the United States for the treatment of relapsing forms of MS.
- Experimental evidence shows that BG-12 may have anti-inflammatory and cytoprotective effects through mechanisms involving nuclear factor (erythroid-derived 2)-like 2 (Nrf2) signaling.

OBJECTIVE

- To present results from animal reproductive toxicology studies and pregnancy outcomes reported during the BG-12 clinical development program.

METHODS

Animal Reproductive Toxicology Studies

- Reproductive and developmental toxicology was evaluated in rats and rabbits, given dimethyl fumarate during organogenesis or during pregnancy and lactation (Table 1).
- The effects of dimethyl fumarate on male and female fertility were evaluated in rats and rabbits.

RESULTS

Animal Reproductive Toxicology Studies

- There were no evidence of increased risk of fetal abnormalities or adverse pregnancy outcome with relative with gestational exposure to BG-12 during the first trimester, although data are limited.
- Further data on the impact of BG-12 treatment during pregnancy will be collected through a Phase 4 pregnancy registry.

Clinical Pregnancy Monitoring Procedure

- In the BG-12 clinical trial program: Women considering becoming pregnant while in the study or who were pregnant and lactating were excluded.
- Male and female subjects of childbearing potential were required to use effective contraception.
- All women who became pregnant were required to discontinue treatment immediately.

Clinical Analysis of Pregnancy

- All pregnancies occurring during BG-12 clinical trials and their outcomes were recorded data cut-off: January 2, 2013.
- The population analyzed included 2,665 patients with MS, 320 patients with psoriasis, and 101 rheumatoid arthritis patients, and 338 healthy volunteers.

- BG-12 and GA groups was lost to follow-up.
- Similar proportions of pregnancies in BG-12- and placebo-treated subjects resulted in live birth outcomes.

Similar properties of pregnancies in BG-12- and placebo-treated subjects resulted in live birth (46% and 46%, respectively).

- No fetal abnormalities were reported for any of the live births.
- In 22 live births in subjects receiving BG-12, 20 were full term (37–42 weeks gestation) and were premature (320 weeks gestation). Both births occurred in subjects who had not received BG-12 for approximately 40 days at the time of their last menstrual period.

- There were no evidence of increased risk of fetal abnormalities or adverse pregnancy outcome with relative with gestational exposure to BG-12 during the first trimester, although data are limited.

- Further data on the impact of BG-12 treatment during pregnancy will be collected through a Phase 4 pregnancy registry.

REFERENCES


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