Pregnancy and foetal outcomes and breastfeeding practices following maternal exposure to glatiramer acetate

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Background

- The onset of MS often occurs in women of childbearing age, therefore the questions about safety of treatment with **Copaxone (glatiramer acetate [GA])** during pregnancy and postpartum have come into focus.
- Pregnancy and breastfeeding data for GA may support clinical decision-making in MS patients.

Objectives

- To assess pregnancy and foetal outcomes and breastfeeding practices for women reporting exposure to GA during pregnancy and breastfeeding

Methods

- Postmarketing reports of in-utero GA-exposed pregnancies were extracted from April 1, 2019 to February 28, 2021 from Teva global pharmacovigilance database.
- One- and 12-month follow-up questionnaires were sent and obtained for a subset of patients.
- Pregnancy exposure data acquired prior to the pregnancy outcome knowledge or prior to detection of a congenital malformation at prenatal examination were considered **prospective pregnancy reports.** Data acquired after the outcome of the pregnancy was known or after detection of a congenital malformation or prenatal test were considered **retrospective pregnancy reports**.
- Major congenital malformations were classified based on the Metropolitan Atlanta Congenital Defects Program (MACDP) classification and the European Concerted Action on Congenital Anomalies and Twins (EUROCAT) and adjudicated by a physician.
- Pregnancy outcome rates in prospective cases were compared with the general population rate.
- Breastfeeding duration and GA duration while breastfeeding were described.

Results

- A total of 2129 pregnancy cases were retrieved, 1406 (66%) of which had known pregnancy outcomes.
- Characteristics of pregnancies are shown in Table 1.

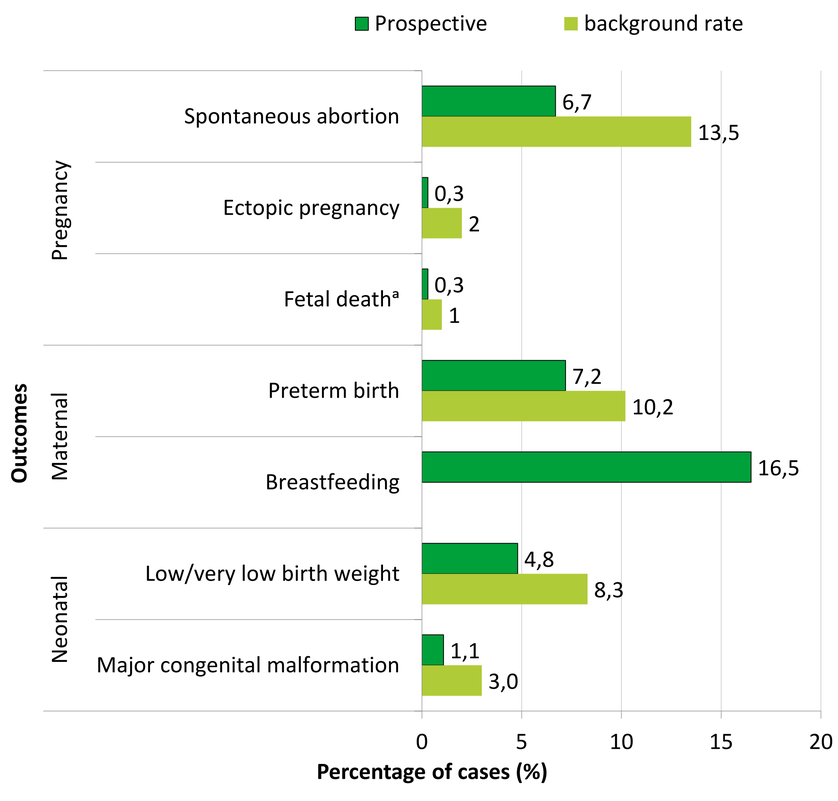
Table 1 Demographic and baseline characteristics of glatiramer acetate-exposed pregnancy cases

	Prospective	Retrospective	Total
Characteristics	**N=1397 (%)**	**N=732 (%)**	**N=2129 (%)**
Maternal age, years			
Total, n	1154 (100)	582 (100)	1736 (100)
Mean (SD)	32 (4.6)	33 (5.1)	32 (4.8)
Indication[a]			
Multiple sclerosis	964 (69.0)	394 (53.8)	1358 (63.7)
Relapsing remitting MS	166 (11.9)	53 (7.2)	219 (10.3)
Other MS conditions	12 (0.9)	9 (1.2)	21 (1.0)
Unknown	256 (18.3)	277 (37.8)	533 (25.0)
GA dose			
20 mg/mL	198 (14.2)	121 (16.5)	319 (15.0)
40 mg/mL	1081 (77.4)	433 (59.2)	1514 (71.1)
20 & 40 mg/mL	14 (1.0)	10 (1.4)	24 (1.1)
Unknown	104 (7.4)	168 (23.0)	272 (12.8)
Trimester of exposure[a]			
Total	1086 (100)	488 (100)	1574 (100)
First trimester	1027 (94.6)	474 (97.1)	1501 (95.4)
After first trimester	296 (27.3)	97 (19.9)	393 (25.0)
Throughout pregnancy	169 (15.6)	69 (14.1)	238 (15.1)
Report type			
Solicited	1289 (92.3)	637 (87.0)	1926 (90.5)
Spontaneous	108 (7.7)	95 (13.0)	203 (9.5)
Reporter type[b]			
Patient	1039 (74.4)	572 (78.1)	1611 (75.7)
Health care provider	358 (25.6)	160 (21.9)	518 (24.3)

[a] The number of patients in each category do not necessarily sum to the total since more than one category is possible for each patient

[b] based on highest qualification

Figure 1 Pregnancy, maternal and neonatal outcomes of prospective cases exposed to glatiramer acetate



[a] At unknown gestational age

- **Report source**: USA (22.1%), Germany (17.4%), UK (11.6%), Canada (8.5%), Czech Republic (4.6%) and other countries (35.7% with each country < 5%).

Prospective group:

- Pregnancy outcome was known for 691 pregnancies (702 foetuses).
- Of 702 foetuses, there were 647 (92.2%) live births, 47 (6.7%) spontaneous abortions, 4 (0.6%) induced abortions, 2 (0.3%) ectopic pregnancies and 2 (0.3%) foetal deaths at unknown gestational age Figure 1).
- Major congenital malformation rate (based on MACDP or EUROCAT) in live births was 1.08%, 7/647, which is below the background prevalence rate of 3% in the general population according to MACDP and 2.06% of births according to EUROCAT.[1,2]
- Preterm birth (7.2%) and low/very low birth weight (4.8%) were within the general population rates.[3]

Questionnaire subset

- Among 393 pregnancy cases, 75 reported breastfeeding.
- Growth parameters were within the range of the background rates.
- In 12-month questionnaire from 40 breastfeeding respondents, infant developmental delay was not reported.

Breastfeeding practice (12 month-Q) reported in 27 women:

- exclusive breastfeeding (≥ 4 months): 17 (63.0%) respondents.
- Partial breastfeeding (< 4 months or mixed breast/bottle feeding): 10 (37.0%) respondents.
- Mean duration of maternal GA exposure while breastfeeding: 7 (SD=4.3) months (max duration 13 months).

Conclusions

- The major congenital anomaly rate and other pregnancy outcomes in prospective GA exposed pregnancies is within the normal range compared with background rates. No infant developmental delay among breastfeeding mothers were reported through the age of one year.

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Disclosures

SK, MZ and TS are employees of Teva Pharmaceutical Industries Ltd.

References

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3. Martin JA, et al. Births: 2019. Natl Vital Stat Rep 2021;