**Table e-1. Characteristics of MS women with and without miscarriages at the onset of first rituximab-exposed pregnancy**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Women without Miscarriages | Women with Miscarriages | p-value |
| Number of women | **n=40** | **n=15** |  |
| Age, median (IQR), y | 31.3 (28.0, 35.0) | 31.0 (28.2, 34.1) | 0.9925 |
| age >=35, n (%) | 12 (30.0) | 3 (20.0) | 0.5209 |
| Race/Ethnicity, n (%) |   |   | 0.4062 |
|  white | 14 (35.0) | 7 (46.7) |  |
|  Hispanic | 18 (45.0) | 4 (26.7) |  |
|  black | 7 (17.5) | 3 (20.0) |  |
|  Asian | 1 (2.5) | 1 (6.7) |   |
| Obesity, n (%) |  |  |  |
|  BMI at conception, median (IQR) | 27.8 (23.2, 30.4) | 24.0 (22.0, 31.5) | 0.4440 |
|  Normal weight (<25) | 14 (35.0) | 8 (53.3) | 0.6317 |
|  Overweight (>=25 to <30) | 15 (37.5) | 3 (20.0) |  |
|  Obese Class I (>=30 to <35) | 6 (15.0) | 3 (20.0) |  |
|  Obese Class II (>=35 to <40) | 2 (5.0) | 0 (0) |  |
|  Obese Class III (>=40) | 3 (7.5) | 1 (6.7) |  |
| Smoked during pregnancy, n (%) | 1 (2.5) | 0 (0) | 0.5253 |
| Diabetes, n (%) | 5 (12.5) | 0 (0.0) | 0.3077 |
|  Diabetes Mellitus | 1 (20.0) | 0 (0) |  |
|  Gestational Diabetes | 4 (80.0) | 0 (0) |  |
| History of infertility, n (%) | 8 (20.0) | 8 (53.3) | **0.0223** |
|  PCOS | 2 (25.0) | 3 (37.5) |   |
|  ovarian failure | 1 (12.5) | 0 (0) |   |
|  structural causes | 0 (0) | 2 (25.0) |   |
|  other | 2 (25.0) | 0 (0) |   |
|  unknown | 3 (37.5) | 3 (37.5) |   |
| Prior Miscarriages, n (%) | 7 (17.5) | 4 (26.7) | 0.4676 |
| Gravidity, n (%) |   |   | 0.7302 |
|  1 | 18 (45.0) | 8 (53.3) |   |
|  2 | 13 (32.5) | 3 (20.0) |   |
|  3+ | 9 (22.5) | 4 (26.7) |   |
| Parity, n (%) |   |   | 0.9073 |
|  0 | 24 (60.0) | 10 (66.7) |   |
|  1 | 11 (27.5) | 3 (20.0) |   |
|  2+ | 5 (12.5) | 2 (13.3) |   |
| MS Subtype, n (%) |   |   | 1.000 |
|  RRMS | 39 (97.5) | 15 (100.0) |   |
|  RIS | 1 (2.5) | 0 (0) |   |
| Disease duration |   |   |   |
|  median (IQR), y | 5.1 (2.6, 8.7) | 5.4 (1.8, 9.3) | 0.7125 |
| No. of relapses 2y pre-pregnancy, n (%) |   |   | 0.5673 |
|  0 | 22 (55.0) | 6 (40.0) |  |
|  1 | 11 (27.5) | 5 (33.3) |  |
|  ≥2 | 7 (17.5) | 4 (26.7) |  |
| EDSS |   |   |   |
|  median (IQR) | 2.0 (1.0-3.0) | 1.0 (0.0-2.0) | 0.1837 |
| DMT use prior to RTX, n (%) |  |  |  |
|  none | 9 (22.5) | 6 (40.0) | 0.3073 |
|  IFN-betas | 7 (22.6) | 3 (33.3) | 0.6199 |
|  glatiramer acetate | 5 (13.1) | 3 (33.3) |   |
|  fingolimod | 4 (12.9) | 0 (0) |   |
|  natalizumab | 12 (38.7) | 2 (22.2) |   |
|  other\* | 3 (9.7) | 1 (11.1) |   |
| Switched to RTX solely for pregnancy planning, n (%) | 13 (32.5) | 3 (20.0) | 0.5103 |
| Abbreviations: IQR = interquartile range, y = years, BMI=body mass index, PCOS=polycystic ovary syndrome, RRMS=relapsing-remitting multiple sclerosis, RIS=radiologically isolated syndrome, EDSS=expanded disability status scale, DMT=disease modifying treatment, IFN = interferon, RTX=rituximab\*n=2 dimethyl fumarate, n=1 cyclophosphamide and n=1 azathioprine |

**Table e-2. Periconceptional rituximab exposure among pregnancies not ending in a miscarriage and those ending in a miscarriage**

|  |  |  |  |
| --- | --- | --- | --- |
|  | No Miscarriages | Ending in Miscarriage | p-value |
| Pregnancies | 51 | 23 |  |
| Most recent infusion |   |   |   |
|  *during pregnancy, n (%)* | 7 (13.7) | 2 (8.7) | 0.7114\* |
|  accidental 1st trimester exposure, n (%) | 7 (13.7) | 2 (8.7) |  |
|  median (IQR) from LMP, mos | 0.5 (0.2, 0.7) | 0.7 (0.3, 1.1) | 0.6605 |
|  *prior to pregnancy*, *n (%)* | 44 (86.3) | 21 (91.3) |   |
|  median (IQR), mos  | 0.5 (0.2, 0.7) | 0.7 (0.3, 1.1) | 0.6605 |
|  0-2.0 mos | 12 (27.3) | 7 (33.3) | 0.996 |
|  2.1-4.0 mos | 12 (27.3) | 6 (28.6) |   |
|  4.1-6.0 mos | 9 (20.5) | 4 (19.1) |   |
|  6.1-9.0 mos | 4 (9.1) | 1 (4.8 |   |
|  9.1-12.0 mos | 3 (6.8) | 1 (4.8 |   |
|  >12 mos | 4 (9.1) | 2 (9.5) |   |
| Duration of use, median (IQR), mos | 11.1 (4.2, 23.5) | 16.1 (4.9, 27.3) | 0.3779 |
| Cumulative dose, mg, median (IQR) | 2000 (1000, 3500) | 2000 (1000, 3000) | 0.9015 |
| Cumulative no. infusions, median (IQR) | 3.0 (1.0, 4.0) | 3.0 (2.0, 5.0) | 0.3960 |
| Abbreviations: LMP = last menstrual period, mos = months, IQR = interquartile range, no. = number, RTX=rituximab, mos=months\*comparing most recent RTX exposure during pregnancy versus prior to pregnancy |