

Ocrelizumab in Pregnancy and Lactation

Overview



Pregnancy outcomes

- As of July 2023, 3253 pregnancies had been reported in women with MS treated with OCR¹
- Pregnancy and outcome rates related to *in utero* exposure to OCR are presented below, in addition to epidemiological background rates in both MS and general populations

Summary of Pregnancy Outcomes by Exposure Category



- Reported pregnancies among women with MS treated with OCR rose from n=2020 (March 2022) to n=3253 (July 2023), marking an increase of approximately 62%^{1,2}
- Most pregnancies resulted in live births (83.6%), and proportions were similar in the exposed and non-exposed groups¹
- Among live births, 61.4% were full term and 8.5% were preterm¹
 - Proportions were similar in the exposed and non-exposed groups
 - Gestational age was unknown in 30.2% of cases
- A higher proportion of elective terminations occurred in the exposed group (7.4%, vs 1.7% in the non-exposed group), but the overall cumulative (total cohort) proportion of elective abortions has decreased (5.1% in 2023 vs 11.5% in 2022 and 15.7% in 2021)²
- A smaller proportion of spontaneous abortions occurred in the exposed group (7.4%) compared with the non-exposed group (9.1%)¹
- The overall rate of stillbirths remained low (<0.1%)¹

Table 1. Summary of known pregnancy outcomes by exposure category:^a Prospective cases^{1b}

Number of MS pregnancies	Non-exposed (N=575)	Exposed (N=855)	Unknown (N=1016)	Total (N=2466)	Epidemiological rates	
					MS background rate	General population background rate
Known outcomes	n=351	n=512	n=282	n=1145		
Live births^b	88.3%	84.2%	76.6%	83.6%	70.2–77.2 ³	70.2 ³
Full term (≥37 weeks) ^c	70.9%	65.7%	39.1%	61.4%	–	–
Preterm (<37 weeks) ^c	8.4%	9.5%	6.5%	8.5%	7.2–15.4 ^{3,6}	6.5–10.4 ^{3,4,6}
Unknown gestational age ^c	20.7%	24.8%	54.4%	30.2%	–	–
Ectopic pregnancy	0.9%	0.8%	2.5%	1.2%	0.6–1.3 ^{3,4}	1.1–2.0 ^{3,4}
Elective termination	1.7%	7.4%	5.0%	5.1%	10.7–18.1 ³	18.2 ³
Intrauterine fetal death^d						
Spontaneous abortion, ≤22 weeks ^d	9.1%	7.4%	16.0%	10.0%	10.5–11.6 ^{3,5}	10.0–20.0 ^{3,4}
Stillbirth, >22 weeks ^d	–	0.2%	–	<0.1%	0.3–0.6 ^{3,6}	0.2–0.7 ^{3,6}

Dashes indicate that no cases were reported. ^aExposure classification is based on OCR t_{1/2}=26 days (full elimination from the body is expected by approximately 4.5 months) and assuming no relevant placental transfer of IgG1 antibodies occurs prior to 12 weeks of gestation. ^{7,8}*In utero* exposure based on timing of last OCR dose relative to the LMP. ^cPercentages represent fractions of the total live births for the respective exposure categories (not exposed *in utero*, exposed *in utero*, unknown exposure, total). ^dPercentages represent fractions of the total known outcomes of the respective exposure categories (not exposed *in utero*, exposed *in utero*, unknown exposure, total).

Major Congenital Anomalies



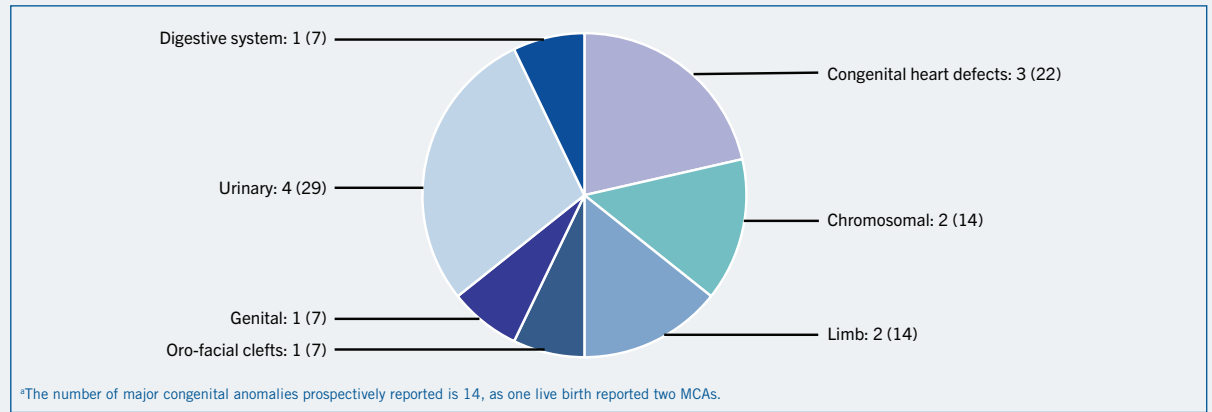
Table 2. Major congenital anomalies in pregnancies with known outcomes¹

	Non-exposed	Exposed	Unknown exposure	Total
Live births	N=310	N=431	N=216	N=957
Live birth with MCA, n (%) ^a	4 (1.3)	7 (1.6)	1 (0.5)	12 (1.3)
Full term with MCA, n	3	4	1	8
Preterm with MCA, n ^b	1	3	–	4
Unknown GA with MCA, n ^b	–	–	–	–
Stillbirths >22 weeks	N=0	N=1	N=0	N=1
Stillbirth with MCA, n ^b	–	1	–	1
Live birth/stillbirth with MCA, n (%)^c	4 (1.3)	8 (1.9)	1 (0.5)	13 (1.4)

^aPercentages represent fractions of total live births for the respective exposure category. ^bDashes indicate that no cases were reported. ^cPercentages represent fractions of the total stillbirths/live births for the respective exposure category.

- Proportions and types of MCAs are consistent with the epidemiological background. ^{3–6,9,10} It is estimated that around 2–4% of all children born every year will have an MCA^{3–6,9}

Figure 1. Distribution of major congenital anomalies in pregnancies with known outcomes by EUROCAT¹¹ category, n (%)^{1a}



Ongoing Clinical Trials: MINORE & SOPRANINO



MINORE^{12,13}

- Enrollment of ~44 women at \leq GWk 30 whose last OCR dose occurred at any time from 6 months before the LMP until the end of the first trimester
- **Primary endpoint:** Proportion of infants with B-cell levels below LLN at Week 6 of life
- **Key secondary endpoints:** serum OCR levels in umbilical cord blood; infant humoral immune responses to vaccinations
- More information is available at ClinicalTrials.gov



SOPRANINO^{13,14}

- Enrollment of at least 20 women who delivered a term infant and made the decision to breastfeed while receiving OCR (inclusion from 2–24 weeks postpartum)
- **Co-primary endpoints:** Proportion of infants with B-cell levels below the LLN, measured 30 days after the mother's first postpartum OCR infusion; estimated ADID over 60 days after the mother's first postpartum OCR infusion
- More information is available at ClinicalTrials.gov

The [Prescribing Information](#) is the primary source of information on the known and potential risks associated with ocrelizumab.

Abbreviations:

ADID=average daily oral infant dose; EUROCAT=European Surveillance of Congenital Anomalies; GA=gestational age; GWk=gestation week; IgG1=immunoglobulin G1; LLN=lower limit of normal; LMP=last menstrual period; MCA=major congenital anomalies; MS=multiple sclerosis; NCT=National Clinical Trials; no=number; OCR=ocrelizumab; $t_{1/2}$ =half-life.

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<https://www.genentech-medinfo.com/our-products/neuroscience/ocrevus.html>

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