



<https://ter.li/xga3kz>

Pregnancy and Infant Outcomes in Females Receiving Ocrelizumab for the Treatment of Multiple Sclerosis: Analysis of over 3,000 Pregnancies to Date

R Bove,¹ C Pietrasanta,^{2,3} C Oreja-Guevara,⁴ K Hellwig,⁵ R Dobson,⁶ S Vukusic,⁷ C-J Lin,⁸ D Goncalves Pereira Alves,⁹ D Zecevic,⁹ G Ferreira,⁹ L Craveiro,⁹ N Pasquarelli,⁹ T McElrath¹⁰

¹Department of Neurology, UCSF Weill Institute for Neurosciences, University of California San Francisco, San Francisco, CA, USA;

²Department of Clinical Sciences and Community Health, University of Milan, Milan, Italy;

³NICU, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milan, Italy; ⁴Neurology, Hospital Clínico San Carlos, Idissc, Madrid, Spain;

⁵Katholisches Klinikum Bochum, St. Josef Hospital, Universitätsklinikum, Bochum, Germany;

⁶Centre for Preventive Neurology, Wolfson Institute of Population Health, Queen Mary University of London, London, UK;

⁷Service de Neurologie et Sclérose en Plaques, Fondation Eugène Devic EDMUS contre la Sclérose en Plaques, Hôpital Neurologique Pierre Wertheimer, Lyon, France;

⁸Roche Products Ltd, Welwyn Garden City, UK; ⁹F. Hoffmann-La Roche Ltd, Basel, Switzerland;

¹⁰Division of Maternal-Fetal Medicine, Brigham and Women's Hospital, Boston, MA, USA.

DMT05

Thursday May 30, 2024

Disclosures

R Bove received consultancy fees from Alexion, EMD Serono, Horizon, Janssen, and TG Therapeutics; and is funded by the National Multiple Sclerosis Society Harry Weaver Award, National Institutes of Health and Department of Defense, as well as Biogen, Eli Lilly, and F. Hoffmann-La Roche Ltd.

C Pietrasanta received consultancy fees from F. Hoffmann-La Roche Ltd.

C Oreja-Guevara received honoraria for consultancy and serving on advisory boards from Biogen Idec., F. Hoffmann-La Roche Ltd, Genzyme, Merck, Novartis, and Teva.

K Hellwig received grant/contract support, consultancy fees, honoraria and/or compensation from the Federal Innovationsfonds, National MS Society in Germany, Almirall, Bayer, Biogen, Sanofi, Teva, Bristol Myers Squibb/Celgene, Janssen, Hexal, F. Hoffmann-La Roche Ltd, Novartis, and Merck.

R Dobson received research support from Multiple Sclerosis Society UK, Horne Family Foundation, Barts Charity, Merck, Biogen, and Celgene; consultancy fees from F. Hoffmann-La Roche Ltd, Novartis, Sandoz, and Biogen (all payments made are institutional and used to support research/educational activities); honoraria for lectures, speaking etc. from Biogen, F. Hoffmann-La Roche Ltd, Sanofi-Genzyme, Merck, Novartis, Janssen, and Teva; support for attending meetings and/or travel from Novartis, Biogen, and Janssen (all payments made are institutional and used to support research/educational activities); and is part of the Association of British Neurologists MS Advisory Group and NHS England Clinical Reference Group.

S Vukusic received grants and research support from Biogen, Novartis, Merck-Serono, F. Hoffmann-La Roche Ltd, and Sanofi-Genzyme; consultancy fees from F. Hoffmann-La Roche Ltd, Biogen, Bristol Myers Squibb/Celgene, Janssen, Novartis, Merck-Serono, Sandoz, Sanofi-Genzyme, and Teva; and payment/honoraria for lectures, speaking etc. from F. Hoffmann-La Roche Ltd, Biogen, Bristol Myers Squibb/Celgene, Novartis, Merck-Serono, Sandoz, Sanofi-Genzyme, and Teva.

C-J Lin is an employee of and a shareholder in F. Hoffmann-La Roche Ltd.

D Goncalves Pereira Alves is an employee of and a shareholder in F. Hoffmann-La Roche Ltd.

D Zecevic is an employee of and a shareholder in F. Hoffmann-La Roche Ltd.

G Ferreira is a consultant for F. Hoffmann-La Roche Ltd.

L Craveiro is an employee of and a shareholder in F. Hoffmann-La Roche Ltd.

N Pasquarelli is an employee of and a shareholder in F. Hoffmann-La Roche Ltd.

T McElrath received research support from the National Institutes of Health and NX Prenatal Inc.; compensation for service on the scientific advisory boards of Mirvie Inc., F. Hoffmann-La Roche Ltd and Momenta Pharmaceuticals, Inc.; and consultancy fees from F. Hoffmann-La Roche Ltd and Comanche Biopharma.

Background



As of March 2023, more than 300,000 people with MS had initiated ocrelizumab treatment globally¹



Women of childbearing potential represent a significant number of people with MS² and the number of those exposed to ocrelizumab before, during, and after pregnancy is increasing³



US prescribing information advises the use of contraception with ocrelizumab and for 6 months after the last infusion;⁴ however, pregnancies may occur during this interval



Reports of infant outcomes upon exposure to ocrelizumab throughout the first year of life are limited and thus reporting by HCPs is crucial

HCP, healthcare professional; MS, multiple sclerosis; US, United States.

1. F. Hoffmann La-Roche Ltd. <https://www.ocrelizumabinfo.global/>. Accessed March 2024; 2. Dobson R, et al. *Curr Opin Neurol* 2021;34:303–311. 3. Oreja-Guevara C, et al. *ECTRIMS* 2022,0038.

4. Genentech, Inc. Highlights of prescribing information 2023.

Background

Potential risks to the woman and/or the fetus must be balanced with maintaining effective management of MS



Disease stabilization before, during and after pregnancy can help reduce the risk of postpartum rebound, and can be achieved through appropriate selection and timing of DMTs^{1,2}



There is increasing evidence on the safe use of high-efficacy DMTs including CD20 during breastfeeding¹

Objectives



To report on pregnancy outcomes among women with MS exposed to ocrelizumab before or during pregnancy up to **July 12, 2023**



To report on outcomes of infants ≤ 1 year of age exposed to ocrelizumab *in utero* and/or through breastfeeding up to **July 12, 2023**

Methods

Sources, reporting type and period, and definition of *in utero* exposure

Sources

- Reports from the Roche Global Safety Database: (1) interventional or non-interventional clinical studies, (2) spontaneous reports, (3) non-interventional program, (4) published literature

Reporting type

- **Prospective:** Final outcomes were unknown at initial notification
- **Retrospective:** Final outcomes were known at initial notification

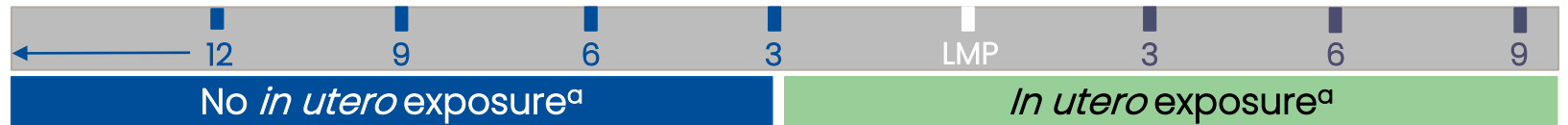
Reporting period

- Cumulative pregnancies reported from

November 5, 2008 to **July 12, 2023**

Exposure

Timing of last OCR dose in relation to date of LMP (months)



^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.¹⁻⁴

In utero exposure: The last OCR infusion was received ≤ 3 months prior to the LMP or throughout pregnancy. No *in utero* exposure: The last OCR infusion as received >3 months prior to the LMP.

Unknown exposure: Where the exposure timing could not be determined or was missing.

IgG1, immunoglobulin G1; LMP, last menstrual period; OCR, ocrelizumab; $t_{1/2}$, half-life.

1. Palmeira P, et al. *Clin Dev Immunol* 2012;2012:985646. 2. Simister NE, *Vaccine* 2003;21:3365-3369. 3. Malek A, et al. *Am J Reprod Immunol* 1996;36:248-255. 4. Saji F, et al. *Rev Reprod* 1999;4:81-89.

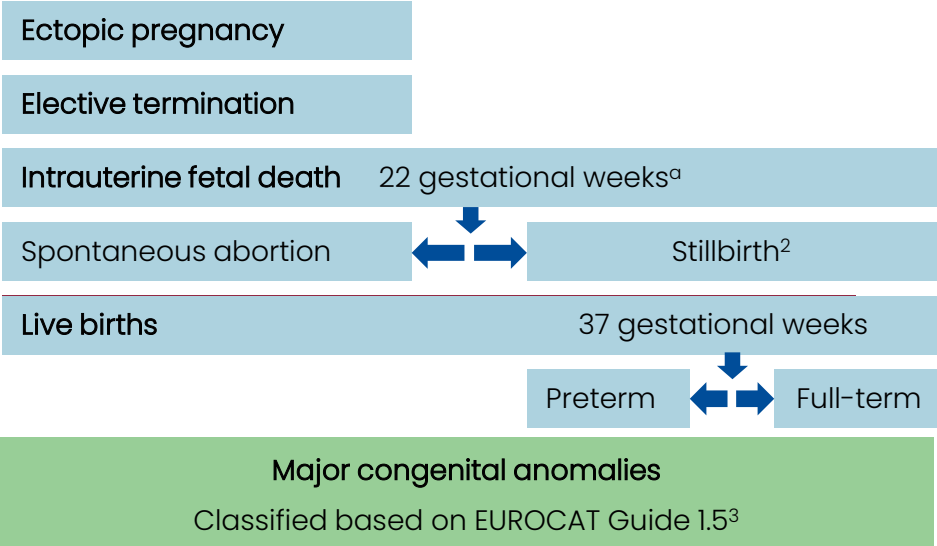
Methods

Definitions of pregnancy and infant outcomes

Pregnancy outcomes¹

Infant outcomes

Pregnancy



First year of life^b

- Infections and hospitalizations
- Breastfeeding status
- Adverse laboratory outcomes (e.g. decreased B-cell counts)
- Vaccinations

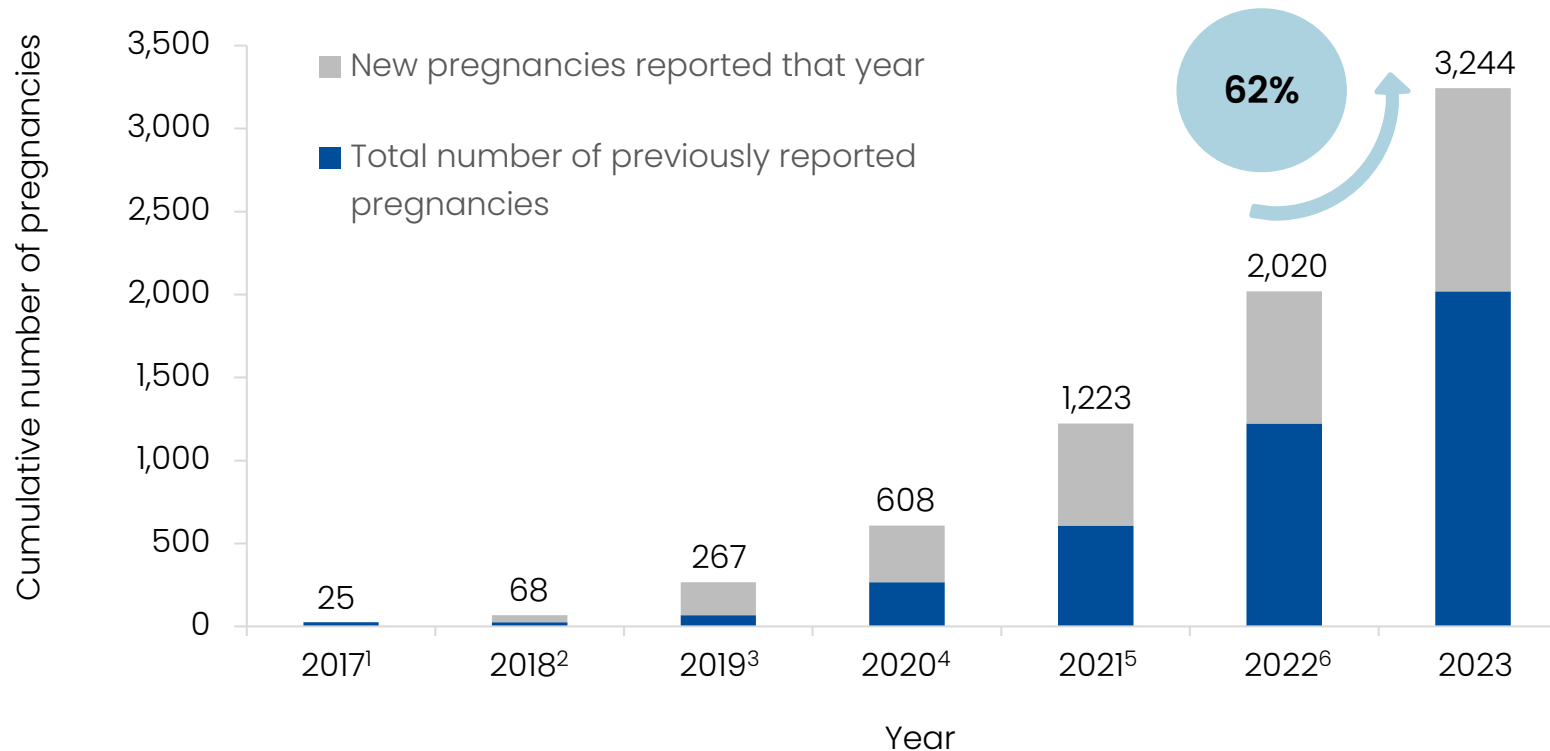
^aAccording to EMA definition³ (other definitions use different thresholds, e.g. 20 or 24 completed weeks). ^bCollected via guided questionnaires provided at birth and at 3, 6, and 12 months of age for follow-up.

EMA, European Medicines Agency; EUROCAT, European Surveillance of Congenital Anomalies.

1. European Medicines Agency (EMA). Guideline on the Exposure to Medicinal Products During Pregnancy: Need for Post-Authorisation data. November 2005. Available from: https://www.ema.europa.eu/en/documents/regulatory-procedural-guideline/guideline-exposure-medicinal-products-during-pregnancy-need-post-authorisation-data_en.pdf. Accessed March 2024. 2. Tavares Da Silva F, et al. *Vaccine* 2016;34:6057–6068. 3. European Surveillance of Congenital Anomalies (EUROCAT) Guide 1.5. Available from: https://eu-rd-platform.jrc.ec.europa.eu/eurocat/data-collection/guidelines-for-data-registration_en#inline-nav-2. Accessed March 2024.

Results

The cumulative number of pregnancies reported among women with MS treated with OCR continues to grow¹



There was a 62% increase in the number of reported cases from 2022 to 2023

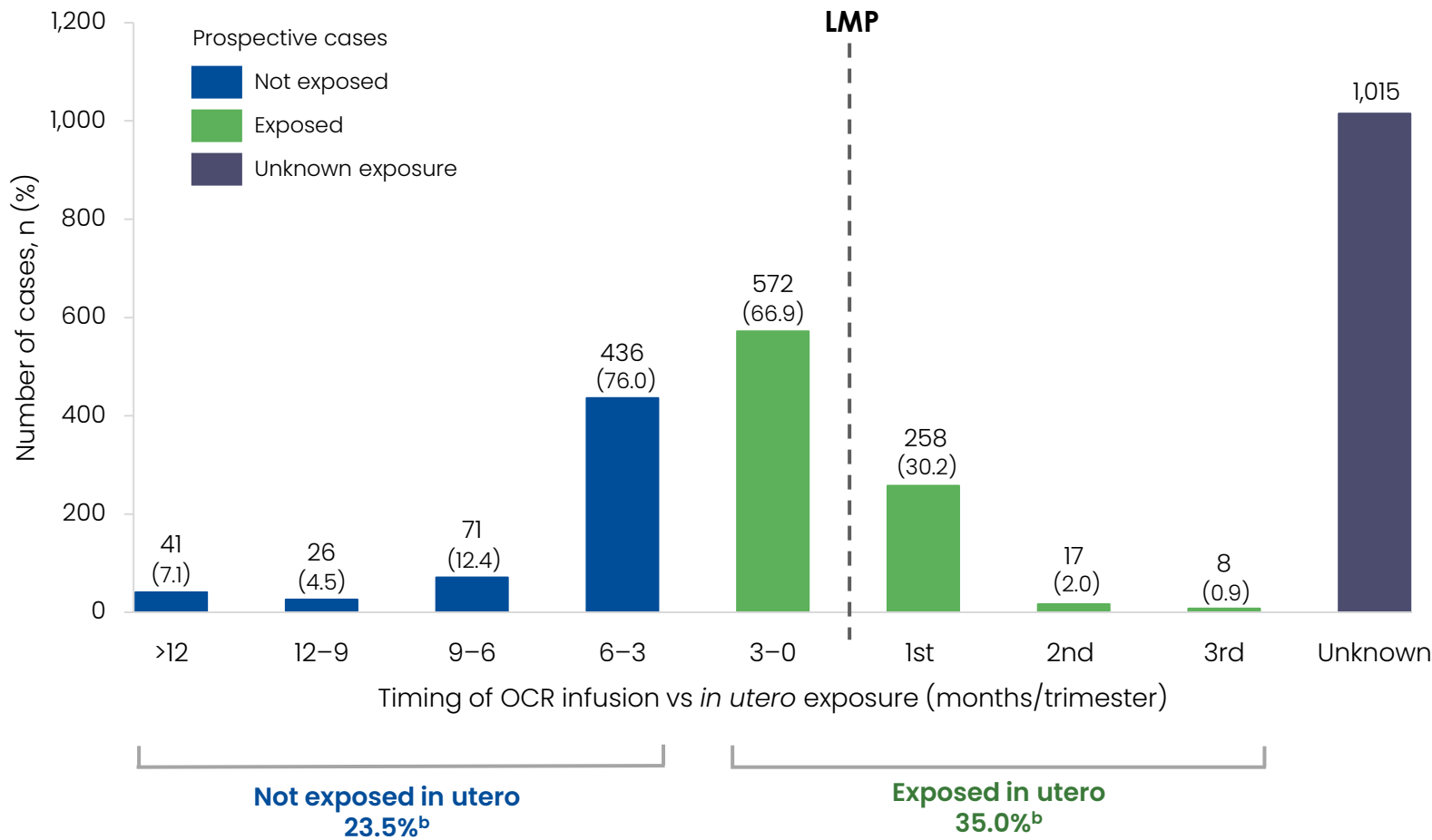
MS, multiple sclerosis; OCR, ocrelizumab.

1. Vukusic S, et al. *ECTRIMS* 2017;P710. 2. Vukusic S, et al. *ECTRIMS* 2018;P600. 3. Oreja-Guevara C, et al. *ECTRIMS* 2019;P780. 4. Bove R, et al. *ECTRIMS-ACTRIMS* 2020;P1132. 5. Dobson R, et al. *ECTRIMS* 2021;P641.

6. Oreja Guevara C, et al. *ECTRIMS* 2022;O038.

Results: Prospectively Reported Cases

Most cases were reported as exposed *in utero*^a and most exposed to the last OCR dose 3–0 months before LMP followed by 1st trimester of pregnancy



- For prospective cases, median age was 32.0 (Q1–Q3: 29–35) years^c

- Timing of last OCR dose in relation to LMP was known for 58.5% of prospective cases
- 41.5% had unknown exposure status

^aDetermined according to timing of last OCR dose in relation to date of LMP (months); exposure 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. ^bPercentages represent fractions of prospective cases with known outcome and known timing of last OCR dose.

^cCases with known age: n=2,671 (82.3%).
 IgG1, immunoglobulin G1; LMP, last menstrual period; OCR, ocrelizumab; $t_{1/2}$, half-life.

Results: Prospectively Reported Cases

Exposure to OCR^a was not associated with an increased risk of adverse pregnancy or infant outcomes compared with the epidemiologic background of both MS and general populations¹⁻⁶

Number of MS pregnancies	Non-exposed (n=574)	Exposed (n=855)	Unknown (n=1,015)	Total (N=2,444)	Epidemiologic rates		
					MS background	General population	
Known outcomes	n=350	n=512	n=282	n=1,144			
Live births^b	88.3%	84.2%	76.6%	83.6%	Most pregnancies resulted in live births that were full term		
Full term (≥37 weeks) ^c	70.9%	65.7%	38.9%	61.3%	–	–	
Preterm (<37 weeks) ^c	8.7%	9.5%	6.5%	8.6%	7.2–15.4 ²⁻⁵	6.5–10.4 ²⁻⁵	
Unknown gestational age ^c	20.4%	24.8%	54.6%	30.1%	–	–	
Ectopic pregnancy^b	0.9%	0.8%	2.5%	1.2%	0.6–1.3 ^{2,3}	1.1–2.0 ^{2,3}	
Elective termination^b	1.7%	7.4%	5.0%	5.1%	10.7–18.1 ²	18.2 ²	
Intrauterine fetal death^b	A higher proportion of elective terminations occurred in the exposed group, but the overall cumulative proportion of elective abortions is decreasing (7.4% in 2023 vs 11.5% in 2022 and 12.7% in 2021)⁷						
Spontaneous abortion, ≤22 weeks ^b					10.1%	10.5–11.6 ²⁻⁴	10.0–20.0 ^{2,3}
Stillbirth, >22 weeks ^b					<0.1%	0.3–0.6 ^{2,5}	0.2–0.7 ^{2,5}

The dash indicates that no cases were reported.

^aIn utero exposure based on timing of last OCR dose relative to LMP. ^bPercentages represent fractions of the total known outcomes of the respective exposure categories (not exposed *in utero*, exposed *in utero*, unknown exposure, total). ^cPercentages represent fractions of the total live births for the respective exposure categories (not exposed *in utero*, exposed *in utero*, unknown exposure, total).

LMP, last menstrual period; MS, multiple sclerosis; OCR, ocrelizumab.

1. Centers for Disease Control and Prevention (CDC). *MMWR Morb Mortal Wkly Rep* 2008;57:1–5. Available from: <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5701a2.htm>. Accessed March 2024. 2. Andersen JB, et al. *Eur J Neurol* 2023;30:162–171. 3. Khan E, et al. *J Neuroimmunol* 2023;24:383:578178. 4. Lopez-Leon S, et al. *J Neurol* 2020;267:2721–2731. 5. MacDonald SC, et al. *Am J Epidemiol* 2019;188:57–66. 6. European Medicines Agency (EMA). Guideline on the Exposure to Medicinal Products During Pregnancy: Need for Post-Authorisation data. November 2005. Available from: https://www.ema.europa.eu/en/documents/regulatoryprocedural-guideline/guideline-exposure-medicinal-productsduring-pregnancy-need-post-authorisation-data_en.pdf. Accessed March 2024. 7. Oreja-Guevara C, et al. *ECTRIMS* 2022;PO038.

Results: Prospectively Reported Cases

Exposure to OCR^a by different washout periods was not associated with an increased risk of adverse pregnancy or infant outcomes

Exposure based on last ocrelizumab dose	Non-exposed in utero, prospective cases			Exposed in utero, prospective cases			Total prospective cases (n=2,444)
Number of MS pregnancies	<6 months (n=138)	<3-6 months (n=436)	Total non-exposed in utero (n=574)	0-3 months before LMP (n=572)	During pregnancy (n=283)	Total exposed in utero (n=855)	
Known outcomes	● n=80	● n=270	● n=350	● n=343	● n=169	● n=512	● n=1,144
Live births^b	● 91.3%	● 87.4%	● 88.3%	● 82.5%	● 87.6%	● 84.2%	● 83.6%
Full term (≥37 weeks) ^c	● 68.5%	● 71.6%	● 70.9%	● 67.1%	● 62.8%	● 65.7%	● 61.3%
Preterm (<37 weeks) ^c	● 6.8%	● 9.3%	● 8.7%	● 9.9%	● 8.8%	● 9.5%	● 8.6%
Unknown gestational week ^c	● 24.7%	● 19.1%	● 20.4%	● 23.0%	● 28.4%	● 24.8%	● 30.1%
Major congenital anomalies ^c	-	● 2.5%	● 1.9%	● 2.1%	● 2.0%	● 2.1%	● 1.7%
Ectopic pregnancy^b	-	● 1.1%	● 0.9%	● 1.2%	-	● 0.8%	● 1.2%
Therapeutic/elective abortion	-	● 2.2%	● 1.7%	● 6.7%	● 8.9%	● 7.4%	● 5.1%
Intrauterine/fetal death^b							
Spontaneous abortion (≤22 weeks)	● 8.8%	● 9.3%	● 9.1%	● 9.3%	● 3.6%	● 7.4%	● 10.1%
Stillbirth (>22 weeks)	-	-	-	● 0.3%	-	● 0.2%	● <0.1%
Live births/stillbirths with MCA^d	-	● 2.5%	● 1.9%	● 2.5%	● 2.0%	● 2.3%	● 1.8%

Data as of July 12, 2023. Dash indicates a data value of 0. ^aIn utero exposure based on timing of last OCR dose relative to the last menstrual period; ^bPercentages represent fractions of the total known outcomes of the respective exposure categories (not exposed in utero, exposed in utero, unknown exposure, total); ^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 total live births and stillbirths. LMP, last menstrual period; MCA, major congenital anomaly; MS, multiple sclerosis; OCR, ocrelizumab.

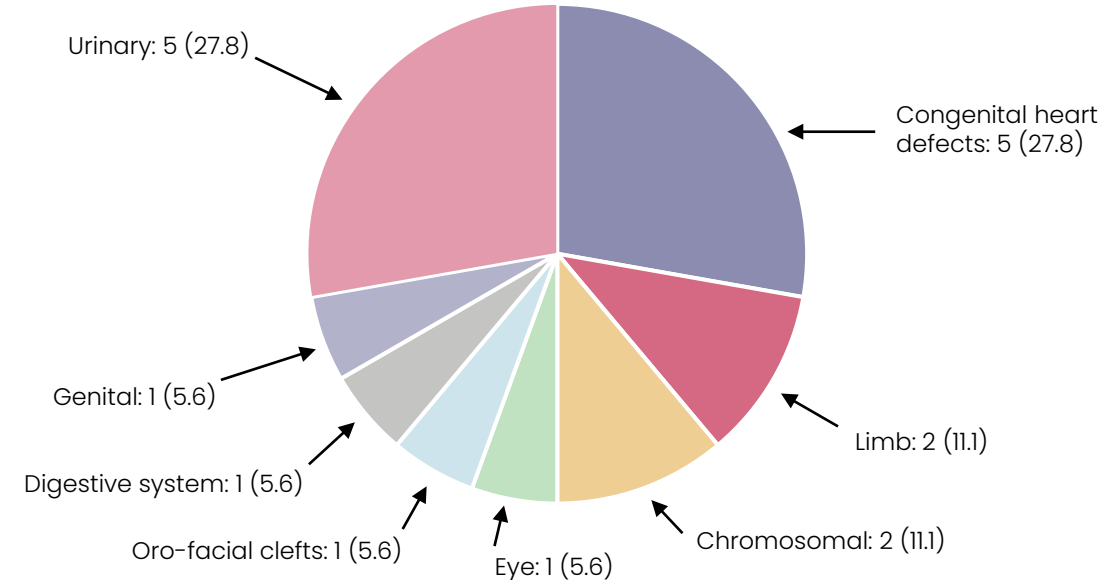
Results: Prospectively Reported Cases

Congenital anomalies in pregnancies with known outcomes were similar in exposed and non-exposed groups, and were in line with epidemiologic background rate

	Non-exposed	Exposed	Unknown exposure	Total
Live births	n=309	n=431	n=216	N=956
Live birth with MCA, n (%) ^a	6 (1.9)	9 (2.1)	1 (0.5)	16 (1.7)
Full term with MCA, n	4	6	1	11
Preterm with MCA, n	2	3	–	5
Unknown GA with MCA, n	–	–	–	–
Stillbirths >22 weeks	n=0	n=1	n=0	N=1
Stillbirth with MCA, n	–	1	–	1
Live birth/stillbirth with MCA, n(%)^b	6 (1.9)	10 (2.3)	1 (0.5)	17 (1.8)

Similar background rates have been reported in both MS (2.2–4.2%)¹⁻⁴ and general population (2.0–4.4%)²⁻⁶

Distribution of major congenital anomalies by EUROCAT⁷ category, n (%)^c for prospectively reported live and stillbirths



The dash indicates that no cases were reported.

^aPercentages represent fractions of total live births for the respective exposure category. ^bPercentages represent fractions of the total stillbirths/live births for the respective exposure category.

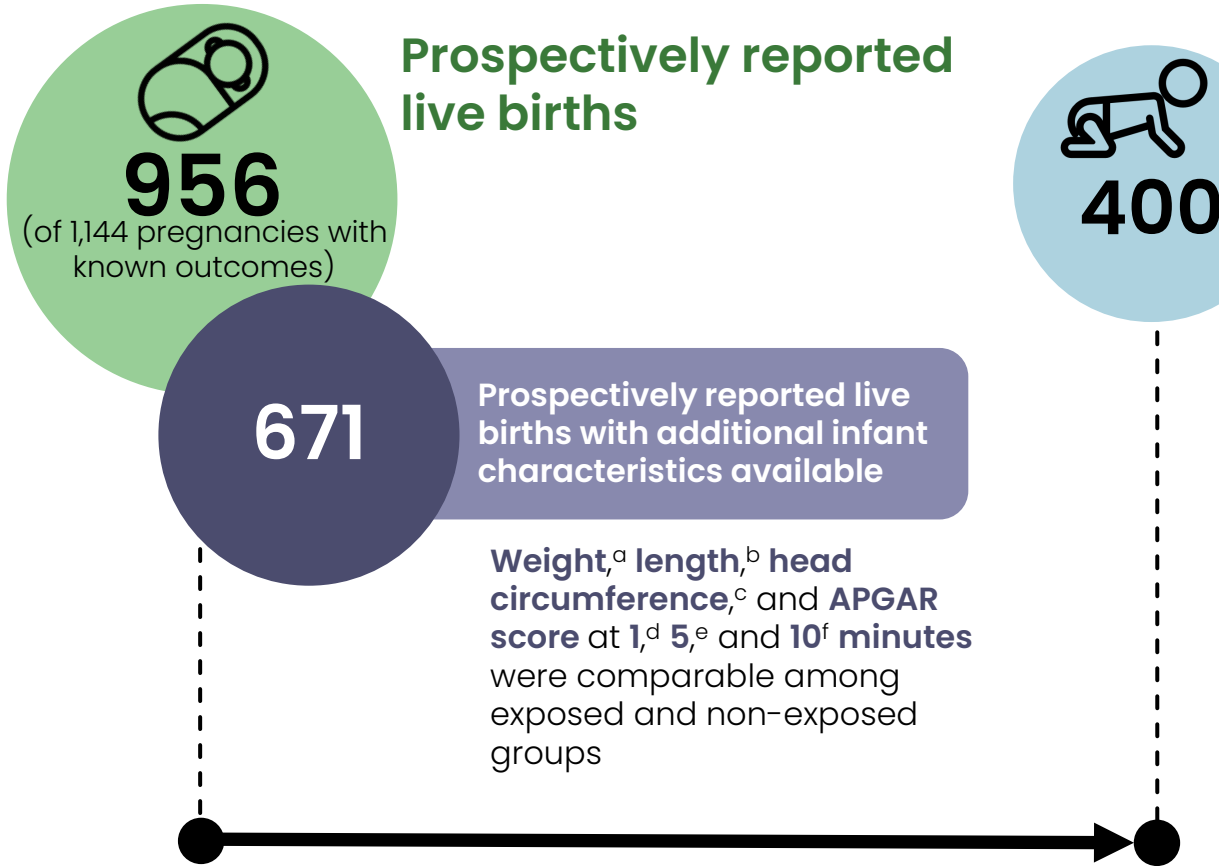
^cThe number of major congenital anomalies prospectively reported is 18, as one live birth reported two MCAs.

EUROCAT, European Surveillance of Congenital Anomalies; GA, gestational age; MCA, major congenital anomaly; MS, multiple sclerosis.

1. Lopez-Leon S, et al. *J Neurol* 2020;267:2721–2731. 2. Andersen JB, et al. *Eur J Neurol* 2023;30:162–171. 3. MacDonald SC, et al. *Am J Epidemiol* 2019;188:57–66. 4. Khan E, et al. *J Neuroimmunol* 2023;24:383:578178. 5. Centers for Disease Control and Prevention (CDC). *MMWR Morb Mortal Wkly Rep* 2008;57:1–5. Available from: <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5701a2.htm>. Accessed March 2024. 6. European Medicines Agency (EMA). Guideline on the Exposure to Medicinal Products During Pregnancy: Need for Post-Authorisation data. November 2005. Available from: https://www.ema.europa.eu/en/documents/regulatoryprocedural-guideline/guideline-exposure-medicinal-productsduring-pregnancy-need-post-authorisation-data_en.pdf. Accessed March 2024. 7. European Surveillance of Congenital Anomalies (EUROCAT) Guide 1.5. Available from: https://eu-rd-platform.jrc.ec.europa.eu/eurocat/data-collection/guidelines-for-data-registration_en#inline-nav-2. Accessed March 2024.

Results: Reported Infant Cases

Infant characteristics at birth were comparable among exposed and non-exposed groups; however, infant outcomes throughout the first year of life are very limited



Infants with 1-year follow-up

- 170 (43%) exposed *in utero*
- 91 (23%) not exposed *in utero*
- 110 (28%) unknown exposure
- 29 (7%) exposed via **breastfeeding only**

Infants with 1-year follow-up:		Breastfeeding exposure	
		Yes (n=122)	No (n=278)
Live vaccines administered, n(%) ^g	Not reported	117 (95.9%)	232 (83.5%)
	Yes	5 (4.1%)	46 (16.5%)
Adverse events (infections, hospitalisations) reported, n(%) ^h	Not reported	107 (87.7%)	167 (60.1%)
	Yes	9 (7.4%)	34 (12.2%)
	No	6 (4.9%)	77 (27.7%)
B-cell levels reported, n(%) ^{i,j}	Not reported/ unknown/ non-determinable	115 (94.3%)	223 (80.2%)
	Normal	7 (5.7%)	49 (17.6%)
	Abnormal	0 (0.0%)	6 (2.2%)

Exposed vs non-exposed, median (IQR): ^a3.4 (3.0–4.0) vs 3.3 (2.9–3.7) kg; ^b51 (49–54) vs 51 (49–53) cm; ^c35 (34–37) vs 34 (34–36) cm; ^d9 (8–9) vs 9 (8–9); ^e10 (9–10) vs 10 (9–10); ^f10 (10–10) vs 10 (9–10), respectively.

^gAs of July 2023, there were no reports of breakthrough infections following administration of common childhood vaccines in infants born to mothers receiving ocrelizumab within 6 months prior to the LMP and/or during pregnancy and enrolled in WA40063 (OCREVUS pregnancy registry). These data were not reported for other cases from different sources in the Roche global pharmacovigilance database. ^hUnspecified infection (n=9), Respiratory Syncytial Virus infection (n=7), COVID-19 (n=7), Urinary tract infection (n=4), Ear infection, including otitis media (n=4), Sepsis (n=3), Eye infection, including conjunctivitis (n=2), Oral candidiasis (n=2), Pneumonia (n=2), Enterococcus faecalis infection (n=2); n=1 each: Group B streptococcus infection, Common cold, Nephritis, Staphylococcus infection, Nasopharyngitis, Upper respiratory tract infection, Influenza, Hand-foot-and-mouth-disease, Kawasaki disease, Respiratory insufficiency. ⁱEvents were: lower B-cell levels at birth, not further specified (n=3); at 2 weeks, CD19 of 0 (n=1); at 17 days of age, B-cell levels were 85/μL (n=1); lower B-cell levels with timing and levels not specified (n=1). ^jWhere actual B-cell levels were available, adjudication on whether the results were below the lower limit of normal was made according to Borriello *et al.* 2022.¹

AE, adverse event; CD19, cluster of differentiate 19; COVID-19, coronavirus disease 2019; IQR, interquartile range; LMP, last menstrual period.

1. Borriello F, *et al.* *J Allergy Clin Immunol* 2022;150:1216–1224.

Conclusions

- **In utero exposure** to ocrelizumab **was not associated with an increased risk of adverse pregnancy or infant outcomes** compared with the epidemiologic background of both MS and general population¹⁻⁶
- The pattern of MCAs reported was consistent with epidemiologic data⁷ and as IgGs are not known to cross the placenta in the first trimester,⁸⁻¹⁰ **the risk of congenital malformations is expected to be low**
- This is the **largest dataset** of pregnancy outcomes for an anti-CD20 therapy in MS,¹¹ which enabled a more **comprehensive understanding of the safety** of ocrelizumab
- **Reporting by HCPs** remains a **critical component to increase available evidence**, as complete reports of infant outcomes upon exposure to ocrelizumab throughout the first year of life are still limited
- Pregnancy and infant **outcomes are important to women with MS**. Patients and data continue to be **collected** through two **post-marketing commitments** (ocrelizumab pregnancy registry, EUPAS31342;¹² and the MELODIC study, EUPAS33879)¹³ and two prospective Phase IV studies examining **infant B-cell levels** and ocrelizumab **pharmacokinetics across the placenta** (MINORE, NCT04998812) and **breastmilk** (SOPRANINO, NCT04998851)¹⁴

CD20, cluster of differentiate 20; EUROCAT, European Surveillance of Congenital Anomalies; HCP, healthcare professional; IgG, immunoglobulin G; MCA, major congenital anomaly; MS, multiple sclerosis.

1. Andersen JB, et al. *Eur J Neurol* 2022;30:162-171. 2. Khan E, et al. *J Neuroimmunol* 2023;24;383:578178. 3. Lopez-Leon S, et al. *J Neurol* 2020;267:2721-2731. 4. MacDonald SC, et al. *Am J Epidemiol* 2019;188:57-66. 5. Centers for Disease Control and Prevention (CDC). *MMWR Morb Mortal Wkly Rep* 2008;57:1-5. Available from: <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5701a2.htm>. Accessed March 2024. 6. European Medicines Agency (EMA). Guideline on the Exposure to Medicinal Products During Pregnancy: Need for Post-Authorisation data. November 2005. Available from: https://www.ema.europa.eu/en/documents/regulatory-procedural-guideline/guideline-exposure-medicinal-products-during-pregnancy-need-post-authorisation-data_en.pdf. Accessed March 2024. 7. European Surveillance of Congenital Anomalies (EUROCAT) Guide 1.5. Available from: https://eu-rd-platform.jrc.ec.europa.eu/eurocat/data-collection/guidelines-for-data-registration_en#inline-nav-2. Accessed March 2024. 8. Palmeira P, et al. *Clin Dev Immunol* 2012;2012:985646. 9. Malek A, et al. *Am J Reprod Immunol* 1996;36:248-255. 10. Saji F, et al. *Rev Reprod* 1999;4:81-89. 11. Oreja-Guevara C, et al. *ECTRIMS* 2022;PO038. 12. Ocrelizumab Pregnancy Registry. 2024. Available from: <https://catalogues.ema.europa.eu/node/2269/administrative-details>. Accessed March 2024. 13. Multisource Surveillance Study of Pregnancy and Infant Outcomes in Ocrelizumab-Exposed Women With Multiple Sclerosis (MELODIC Study). 2024. Available from: <https://catalogues.ema.europa.eu/node/2569/administrative-details>. Accessed March 2024. 14. Bove R, et al. *Mult Scler Relat Disord* 2022;64:103963.