

Pregnancy Outcomes in Women Exposed to Guselkumab: Review of Cases Reported to the Manufacturer's Global Safety Database



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Background

Biologics are approved to treat a range of immunologic diseases and have well-established benefit-risk profiles in the overall target patient populations; however, data are limited on their use during pregnancy^{1,2}

Guselkumab (GUS) is a fully human immunoglobulin G1 λ (IgG1 λ) monoclonal antibody targeting the p19 subunit of interleukin (IL)-23 approved for the treatment of moderate-to-severe psoriasis (PsO) and active psoriatic arthritis (PsA), and currently in clinical development for the treatment of inflammatory bowel disease (IBD)^{3,4}

IgG1 λ antibodies are known to cross the placental barrier and have the potential to affect pregnancy outcomes^{1-3,5}

Objective

Here, we assess pregnancy outcomes in pregnant women exposed to GUS

Methods

- Cumulative data through 12 July 2023 from the Janssen Global Safety Database, including medically confirmed and unconfirmed pregnancies reported from various sources, are summarized descriptively for pregnancies with maternal exposure to GUS:
 - Before conception (within 3 months prior to confirmed pregnancy)
 - During the first trimester (T1)
 - After the first trimester (T2, T3)
 - During all pregnancy
- Pregnancy data were also analyzed as:
 - Prospectively reported pregnancies (ie, pregnancy outcome is not known when first reported)
 - Retrospectively reported pregnancies (ie, pregnancy outcome is known when first reported)
- Pregnancy outcomes were classified as:
 - Live births with or without congenital anomalies
 - Spontaneous abortions and missed abortions
 - Elective terminations, induced abortions, or unspecified abortions with or without fetal defects
 - Stillbirths
 - Fetal deaths
 - Ectopic pregnancies
 - Pregnancies that are ongoing or that have no reported outcome

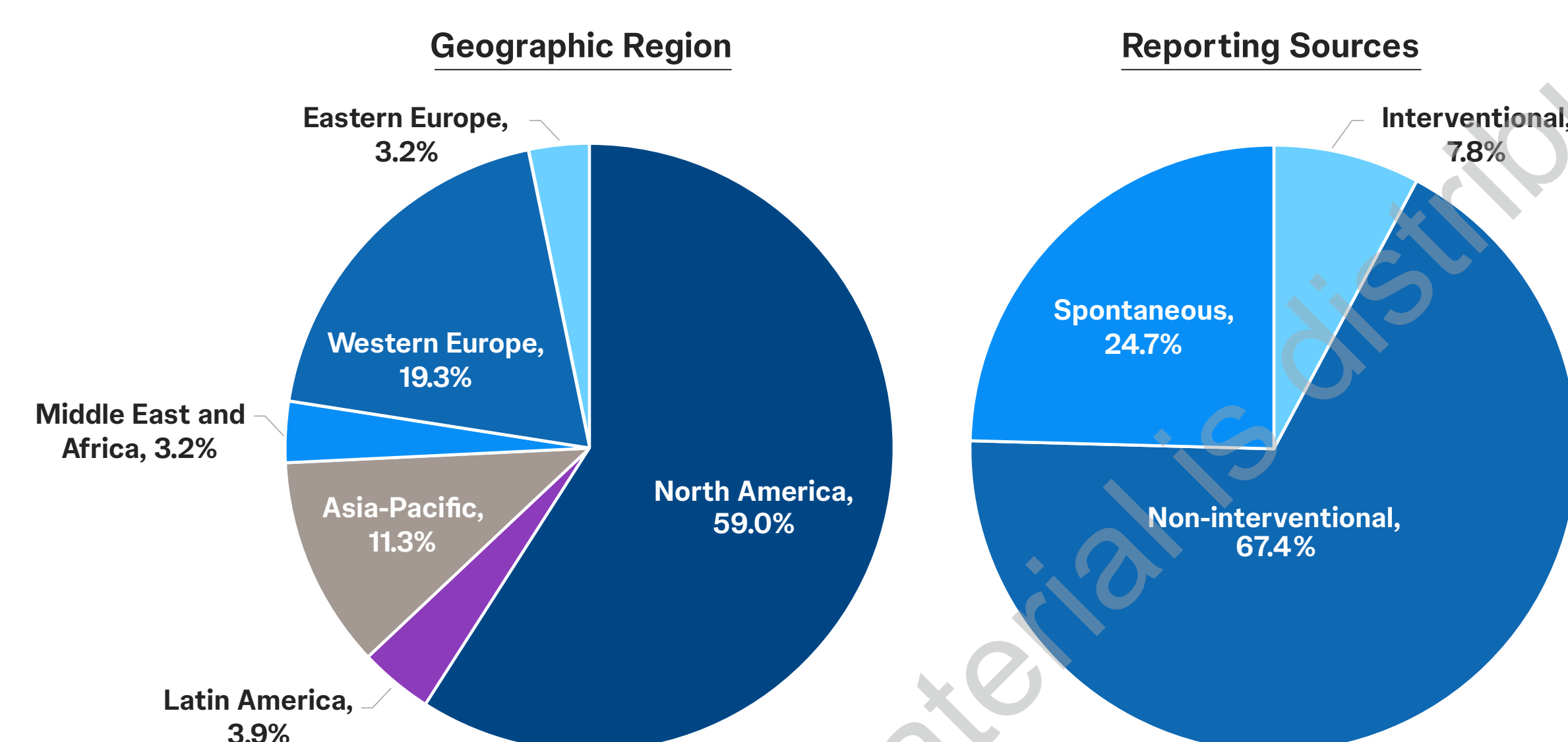
Results

590 pregnancy outcomes^a (including twins [2] and triplets [1]) in 586 women exposed to GUS have been reported through 12 July 2023

- Mean maternal age in those with reported data (N=349) was 32 years (median [range], 32 [19-56])
- Mean duration of GUS exposure prior to pregnancy, in cases reporting this information (N=158), was 385 days (median [range], 238 [0-1717])
- 59.0% of the women exposed to GUS were from North America (Figure 1)
- 67.4% of GUS exposures were reported from non-interventional clinical studies and support programs (Figure 1)
- 85.6% of pregnancy outcomes were reported prospectively (Figure 2)
- Among cases in which the GUS therapeutic indication was reported, 90.0% were PsO (Figure 2)
- Among cases with data allowing for calculation of the timing of GUS exposure, 77.8% occurred during T1 (Figure 2)

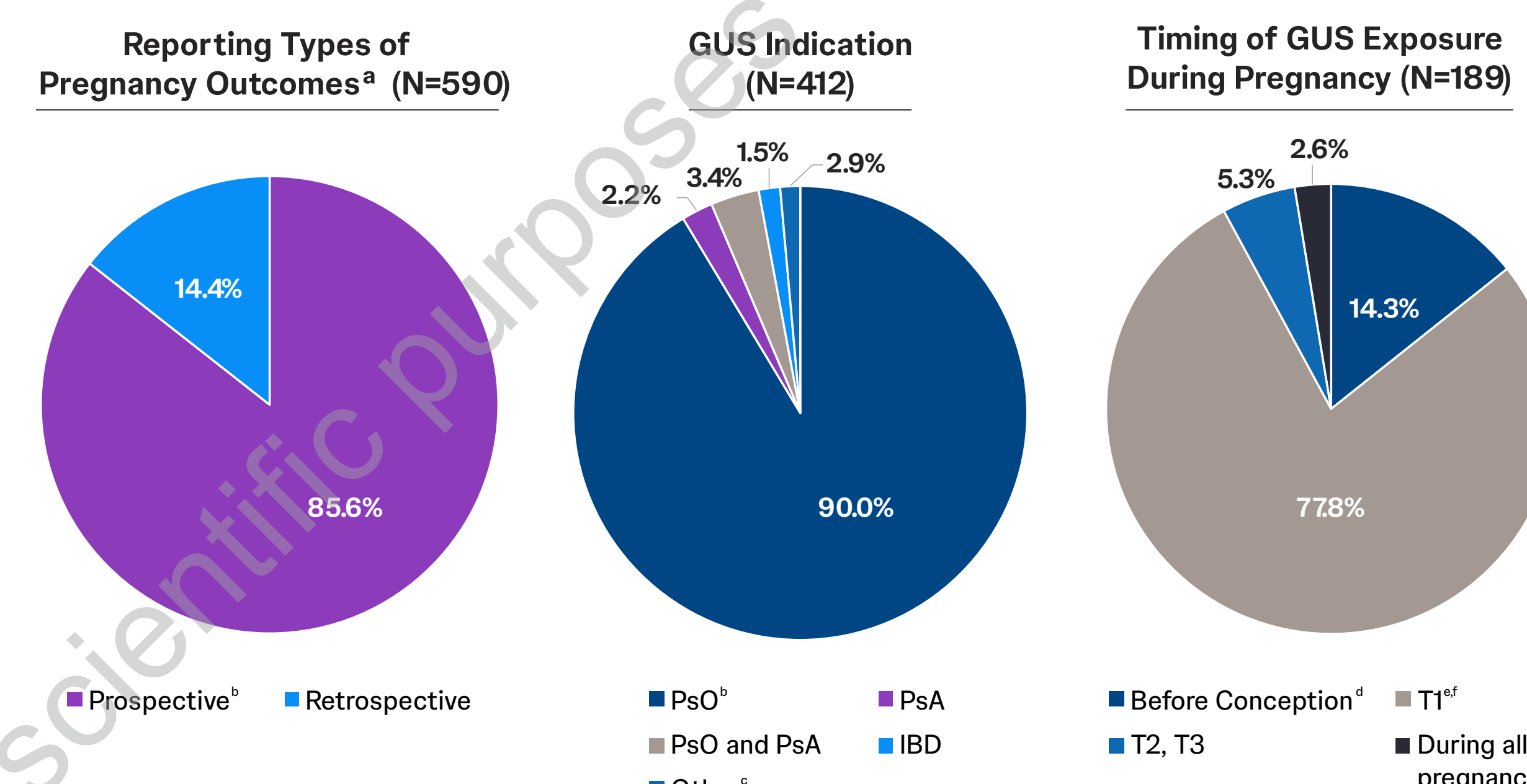
^aIncludes known and unknown pregnancy outcomes.

Figure 1. Maternal GUS Exposure: Geographic Region and Reporting Source (N=586)



GUS=Guselkumab.

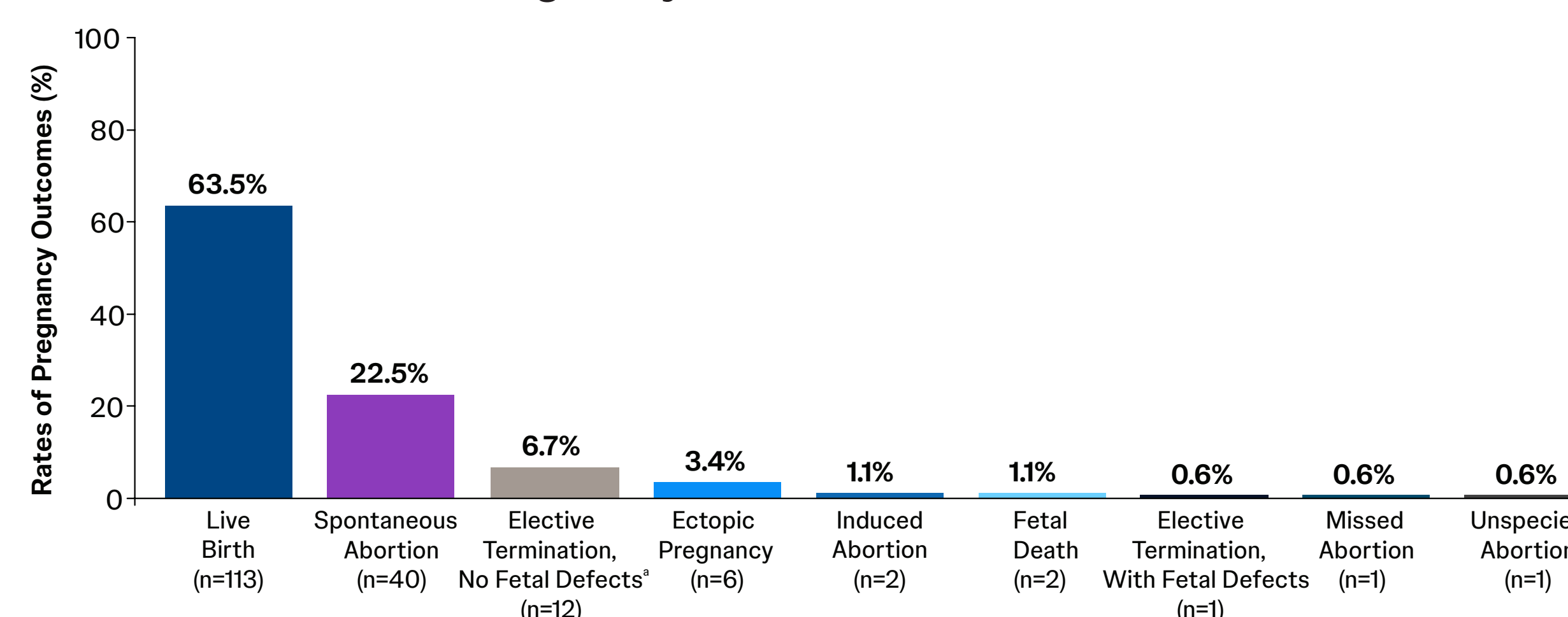
Figure 2. Maternal GUS Exposure: Reporting Types, Indication, and Timing of GUS Exposure



^aIncludes known and unknown pregnancy outcomes; ^bIncludes 2 twin pregnancies and 1 triplet pregnancy; ^cOther includes the following indications: Hidradenitis and PsO, Palmoplantar pustulosis, PsO and Guttae PsO, PsO and Rheumatoid arthritis, Psoriasis, PsO, and healthy patients; ^dIncludes exposure only within 3 months prior to confirmed pregnancy; ^eCases reporting either second or third trimester exposure along with the first trimester exposure have been counted only once under T1; ^fIncludes 1 twin pregnancy; ^gCases reporting exposure to GUS in all 3 trimesters have been counted only once under 'During All Pregnancy' category; GUS=Guselkumab; IBD=Inflammatory bowel disease; PsA=Psoriatic arthritis; PsO=Psoriasis; T=Trimester.

Known outcomes were reported for 178 (30.2%) pregnancies

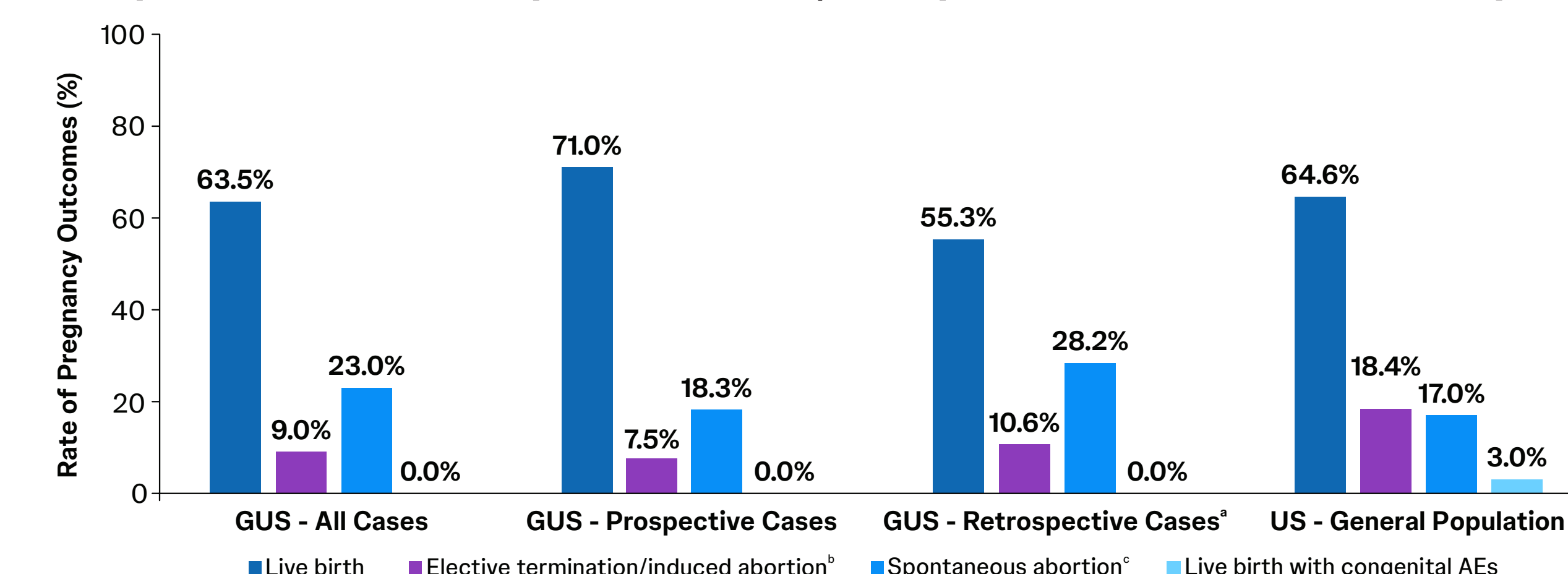
Figure 3. Rates of Known Pregnancy Outcomes for GUS-treated Patients



No cases of live birth with congenital anomaly, unspecified abortion (no fetal defects or unknown), or stillbirth occurred. ^aIncludes no fetal defects or unknown. GUS=Guselkumab.

Rates of pregnancy outcomes were consistent with those for the United States general population^{6,7}

Figure 4. Rates of Known Pregnancy Outcomes for GUS-treated Patients (All, Prospective, and Retrospective Cases) Compared to the US General Population



In GUS-all cases, the rate of ectopic pregnancy was 3.4% and the rate of fetal death was 1.1%; no cases of stillbirth occurred. ^aRetrospective cases are subject to reporting bias and should be interpreted with caution; ^bCount included cases reporting unspecified abortion; ^cCount included cases reporting missed abortion. AEs=Adverse events; GUS=Guselkumab; US=United States.

Table 1. Pregnancy Outcomes by Reported Timing of Maternal Exposure to GUS

Trimester of GUS exposure during pregnancy ^a	Cases with known outcomes	Pregnancy outcome											
		Live birth without congenital anomaly	Live birth with congenital anomaly	Abortion				Elective termination					
				Spontaneous	Induced	Missed	Unspecified	No fetal defects or unknown	With fetal defects	Ectopic pregnancy	Fetal death	Stillbirth	
Before conception	13	10	0	2	0	0	0	0	1	0	0	0	0
During first trimester	73	44	0	16	1	1	1 ^b	6	1	1	2	0	0
After first trimester	4	3	0	0	0	0	0	0	1	0	0	0	0
During all pregnancy	3	3	0	0	0	0	0	0	0	0	0	0	0
Total	93	60^c	0	18	1	1	1	8	1	1	2	0	0

^aCases reporting exposure to GUS in all 3 trimesters have been counted only once under 'During all pregnancy' category. Cases reporting either second or third trimester exposure along with first trimester exposure have been counted only once under 'First trimester' category; ^bOne case reported congenital anomaly (fetal malformation not specified); ^cIncludes five cases of premature birth. GUS=Guselkumab.