

Pregnancy course and outcome in SLE patients compared to patients with other connective tissue and inflammatory rheumatic diseases - Real World data from a prospective Pregnancy Register

Rebecca Fischer-Betz¹, Christina Bungartz², Anja Weiß², Matthias Schneider¹, Jutta Richter¹, Angela Zink^{2,3}, Anja Strangfeld²

¹Department of Rheumatology & Hiller Research Unit, University Hospital, Düsseldorf, ²DRFZ Berlin, ³Charité University Medicine, Berlin, all Germany



Background/Purpose

Pregnancies in women with systemic lupus erythematosus (SLE) are associated with increased frequencies of complications and adverse pregnancy outcomes (APOs). However, advances in pregnancy planning and management during pregnancy enable successful pregnancy in many women with SLE. Less is known about pregnancies in other connective tissue diseases (OCTD). We compared pregnancy courses and outcomes in SLE, OCTD and other inflammatory rheumatic diseases (IRD).

Patients/Methods

The German pregnancy register Rhekiss is a nationwide, web-based observational cohort study. Women with inflammatory rheumatic diseases are enrolled until 20th week of gestation. At baseline, socio-demographics, prior pregnancies, comorbidities, treatment, disease activity and severity as well as antibody status are reported. During pregnancy, rheumatologists and patients report drug treatments, course of the maternal disease, development of fetus and complications once per trimester. After delivery, the pregnancy outcome and child development during the first two years of life are collected.

Results

Between September 2015 and April 2017, 455 inclusions among 452 women diagnosed with inflammatory rheumatic diseases were registered. Among them, 102 patients had SLE, 77 other connective tissue diseases [OCTD, undifferentiated connective tissue disease (n=27), Sjögren Syndrome (n=23), mixed connective tissue disease (n=9)]. Other IRDs (n=271) included mainly RA (n=128), psoriatic arthritis (39), spondyloarthritis (52), and JIA (21) (table 1). Approximately 80 % of all pregnancies were planned. At time of this evaluation, the outcome of 192 pregnancies was known (table 2).

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	SLE (n=104)	OCTD (n=77)	Other IRDs (n=271)
Pregnancies, n	105	78	272
Maternal age, [years]	31.9 (4.4)	33.1 (4.2)	32.5 (4.2)
Disease duration [years]	7.6 (6.1)	5.9 (5.5)	8.1 (7.3)
Pregnancy counselling prior to conception, n (%)	Yes: 47 (82.5) No: 10 (17.5) Missing: 48 (45.7)	Yes: 35 (75.5) No: 12 (25.5) Missing: 31 (39.7)	Yes: 118 (80.3) No: 29 (19.4) Missing: 126 (46.1)
Pregnancy week at inclusion	12.2 (5.4)	13.4 (4.9)	13.3 (5.3)
BMI > 30 (1st trimester), n (%)	6 (8.8)	1 (1.9)	15 (8.4)
Disease activity (physician global) [0-10] (1st trimester)	1.6 (1.5)	1.7 (1.5)	2.5 (2.1)
SLEPDAI [0-105] (1st trimester)	2.1 (3.3)	-	-
RAID [0-10]	1.8 (1.6)	1.9 (1.9)	2.0 (1.9)
Chronic renal disease, n (%)	16 (12.7)	4 (4.4)	1 (0.3)
Prior thrombotic event, n (%)	5 (4)	3 (3.3)	3 (0.8)
Hypertension, n (%)	10 (7.9)	3 (3.3)	5 (1.4)
Antiphospholipid syndrome, n (%)	15 (14.2)	2 (2.6)	2 (0.7)
Lupus anticoagulant, n (%)	11 (10.5)	3 (3.8)	1 (0.4)
anti cardiolipin antibody IgG, n (%)	18 (17.3)	8 (10.3)	8 (2.9)
anti-B2-GP-1 antibody, n (%)	15 (14.4)	6 (7.7)	3 (1.1)

Table 1: Baseline characteristics

Values are means (SD) unless otherwise specified.

	SLE	OCTD	Other IRDs
Maternal complications during pregnancy			
Preeclampsia, n(%)	2 (4.4)	4 (10.5)	0
Thrombosis, n (%)	1 (2.2)	0	0
Gestational diabetes, n(%)	2 (4.4)	2 (5.3)	3 (2.8)
Serious infection, n(%)	2	1	2
Flare during pregnancy, mean number (SD)	1.0 (0)	1.4 (0.6)	2.2 (1.5)
Pregnancy outcomes (n=192)			
Completed pregnancies, n	45	38	109
Spontaneous miscarriages, n (pregnancy week)	3 (9, 10, 12)	2 (14, 21)	5 (5, 8, 3 x 10)
Elective termination	2 * (15, 21)	-	-
Life birth:	40 (88.9)	36 (94.7)	104 (95.4)
- preterm (< 37th week)	6 + 4x twins (25.0)	3 + 3x twins (16.7)	14 + 3x twins (16.3)
- at term (≥ 37th week)	28 + 2x twins (75.0)	30 (83.3)	86 + 1x twins (83.7)
Mean birth weight [g] of singletons born at term	3117	3131	3477
Postpartal maternal complications			
Diverse complications	Cerebral insult (1) # Serious infection (1) Hypertensive crisis (1)	0	Macrophage activating syndrome (mother with Still disease) (1)
Neonatal complications			
Congenital malformation (n)	Multiple anomalies * (1) Pierre-Robin-Syndr. (1) Hemangioma (1) Congen. megaureter (1)	Sacral agenesis (1) Hexadactylus (bilateral) (1)	Hip dysplasia (1) Sacral hemangioma (1)
Infection/ARDS (n)	Serious infection (3)	Serious infection (3) ARDS (3)	Non-serious infection (1) ARDS (1)
Neonatal death (n)	Sepsis (1) (preterm birth) #	ARDS (1) (preterm twin)	0

* elective termination; ARDS: acute respiratory distress syndrome

Two SLE patients with serious complications during or after pregnancy had antiphospholipid syndrome and low treatment adherence.

Table 2: Pregnancy outcome

Conclusions

- Overall rate of adverse pregnancy outcomes was low, probably due to the fact that approximately 80% of all pregnancies were planned and most women received pre-pregnancy counselling.
- However, pregnancy complications were more frequent in patients with SLE/OCTD compared to women with other IRDs. Poor treatment adherence was obvious in two severe pregnancy complications.
- Optimal counselling and management during pregnancy is vital, especially in women with SLE/OCTD.