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Pregnancy Outcomes in Women with Autoinflammatory Diseases - Data from the German Rhekiss Registry

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Background

Autoinflammatory diseases (AID), such as Familial Mediterranean Fever (FMF), Adult-Onset Still's Disease (AOSD), and other periodic fever syndromes, are characterised by innate immune dysregulation leading to recurrent systemic inflammation. These conditions frequently affect women of reproductive age, posing unique challenges during pregnancy due to fluctuating disease activity, medication safety concerns, and potential obstetric complications. Existing evidence on pregnancy outcomes in AID is limited and heterogeneous.

Objectives

To analyse maternal and fetal outcomes during pregnancy and postpartum in women with AID enrolled in the nationwide German pregnancy registry Rhekiss [1].

Methods

The analysis included 51 pregnancies in women with AID documented in Rhekiss (2015-2024). Diagnoses comprised FMF (43%), AOSD (37%), and other AIDs (22%). Women were included preconception or early pregnancy and followed prospectively. Data included demographics, disease activity, comorbidities, therapy, complications and neonatal outcomes. Disease activity was assessed each trimester by physicians and patients. The primary outcome was adverse pregnancy outcome (APO), i.e. preterm birth (PTB), fetal demise, hypertensive disorders, small for gestational age (SGA) and neonatal complications (malformation, neonatal intensive care unit [NICU], infection). Flares were captured as secondary outcome. Descriptive statistics were applied.

Results

Across all 51 pregnancies, mean maternal age was 31 years, and mean disease duration 9.3 years. Disease severity compared to other patients with this disease was moderate in 51% and severe in 27%. Disease activity decreased across trimesters according to physician assessment, while patient-reported disease activity peaked in the second trimester. Flares during pregnancy occurred in 38%. Outcome data were available for 41 pregnancies. Live birth rate was 93%, with n=14 APO (Table 1), comprising miscarriage in 7%, PTB in 10% and SGA in 22%. No cases of (pre-)eclampsia or HELLP syndrome were observed. Neonatal outcomes were generally favourable; one congenital cardiac malformation (reported postnatally as a persistent cardiac septal defect) and one NICU admission were reported. Medication use decreased during pregnancy. (Fig. 2), notably colchicine and IL-1 inhibitors were withdrawn, despite established safety profiles. Laboratory parameters reflected expected physiological changes.

Conclusions

Pregnancy in women with AID can be managed successfully under specialist care, with generally favourable maternal and neonatal outcomes. The absence of severe hypertensive disorders and low PTB rates are reassuring, although the elevated SGA rate warrants further investigation. Optimising preconception counselling and medication adherence remains essential and might reduce flare rate. Larger prospective studies are needed to refine risk stratification and management guidelines.

Image, graphic, or table 1

Table 1: Frequency of adverse pregnancy outcomes (APO) in 41 pregnancies with known outcome shown as n (%).

Parameter	Frequency; n (%)
APO total	**14 (34)**
Preterm birth	4 (10)
Miscarriage	3 (7)
Stillbirth	0
Pregnancy-related hypertensive disorders	
Gestational hypertension	1 (2)
(Pre-)Eclampsia	0
HELLP syndrome	0
SGA (small for gestational age)	9 (22)
Neonatal complications	
Malformation	1 (2)
Neonatal intensive care unit (NICU) admission	1 (2)
Newborn infection	0

Image, graphic, or table 2

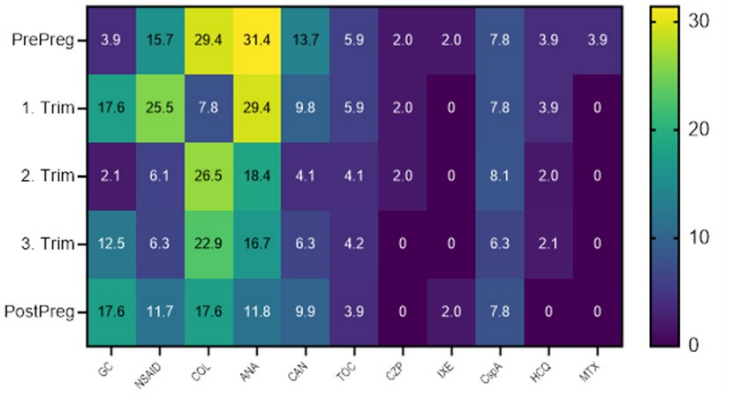

Figure 2: Heatmap showing the proportion (%) of pregnancies with documented exposure to selected medications in the preconception period (PrePreg), during pregnancy by trimester (1st, 2nd, and 3rd trimester), and postpartum (PostPreg). Values represent the percentage of pregnancies with documented use of each medication class at the respective time period. GC, glucocorticoids; NSAID, non-steroidal anti-inflammatory drugs; COL, colchicine; ANA, anakinra; CAN, canakinumab; TOC, tocilizumab; CZP, certolizumab pegol; IXE, ixekizumab; CspA, cyclosporine A; HCQ, hydroxychloroquine; MTX, methotrexate.

References

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