LPO) signatures as potential predictors of response to TNFi treatment with high accuracy. Furthermore, the integration of both features in a combined model increased the predictive value of these signatures (AUC: 0.91). These results were further confirmed in an independent validation cohort.

Conclusion: 1. RA patients display distinctive altered molecular profiles directly linked to their clinical status and associated with TNFi effectiveness. 2. Clinical response was associated with a specific modulation of the inflammatory profile, the reestablishment of the altered oxidative status, the reduction of NETosis and the reversion of related altered miRNAs. 3. The integrative analysis of the clinical and molecular profiles using machine learning allows the identification of novel signatures as potential predictors of therapeutic response to TNFi therapy.

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POS0476

CAN LOW-DOSE ASPIRIN DURING PREGNANCY PREVENT THE DEVELOPMENT OF ADVERSE PREGNANCY OUTCOMES IN WOMEN WITH ARTHRITIS? DATA FROM THE P-RHEUM.IT STUDY

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Background: In rheumatic diseases, specifically in chronic inflammatory arthritis (IA), there are no data about the effectiveness of LDA in preventing pregnancy complications.

Objectives: To assess the potential benefit of LDA administration during pregnancy to prevent adverse pregnancy outcomes (APO) in IA.

To compare pregnancy outcomes in IA pregnancies treated during pregnancy with LDA with those untreated.

Methods: Italian P-RHEUM.it register is designed as a nationwide, web-based longitudinal observational cohort study collecting data on pregnancies in inflammatory rheumatic diseases. At baseline, socio-demographic parameters, obstetric history, comorbidities and clinical/laboratoristic characteristics are registered. During pregnancy, the course of maternal disease, medications, development of fetus and complications are collected for each trimester.

Results: From May 2018 to May 2020, 349 patients were enrolled. Forty-five patients with IA had completed their pregnancy with known outcome (20 Rheumatoid Arthritis, 10 Psoriatic Arthritis, 6 Ankylosing spondylitis, 5 Juvenile Idiopathic Arthritis, 4 Undifferentiated Arthritis): 13 (28.89%) treated with LDA during pregnancy and 32 (71.11%) without LDA prophylaxis. LDA was used with a higher frequency in women with previous APO, anti-phospholipid positivity and on biological DMARDs even if it's not statistically significant (Table 1). All the LDA-treated women had a live-birth rate of 100%, whereas among women not

Table 1. Comparison between inflammatory arthritis pregnancies treated with low-dose aspirin and those untreated.

	LDA (n 19)	Not LDA (n 39)	p
Maternal age at conception, median (IQR)	33 (30.5 - 36.5)	33 (28.2 - 35)	
BMI, median (IQR)	25.4 (22.9 - 28.5)	22.5 (20.4 - 24.5)	
Smoking, n (%)	3 (15.8%)	4/36 (11.1%)	0.68
Previous APO, n (%)	7/11 (63.7%)	7/13 (56.1%)	0.34
aPL+, n (%)	3 (15.8%)	1/36 (2.8%)	0.1
CRP+, n (%)	5/15 (33.3%)	11/27 (40.7%)	0.75
GC at baseline, n (%)	9 (47.4%)	15/34 (44.1%)	0.82
cDMARDs at baseline, n (%)	1 (5.3%)	3/34 (8.8%)	1
bDMARDs at baseline, n (%)	6 (31.6%)	11 (28.2%)	0.79
Live-birth pregnancy, n (%)	18 (94.7%)	32 (82.1%)	0.25
Pregnancy loss, n (%)	1 (5.3%)	7 (17.9%)	0.25
Hypertensive disorders, n (%)	2/18 (11.1%)	6/38 (15.8%)	1
HELLP syndrome, n (%)	0 (0%)	0 (0%)	1
PROM, n (%)	0 (0%)	3/38 (7.9%)	0.54
Preterm delivery, 34-37 GW, n (%)	2 (10.5%)	2 (5.2%)	0.59
Preterm delivery, <34 GW, n (%)	1 (5.3%)	1 (2.6%)	1
IUGR, n (%)	0 (0%)	3 (7.8%)	0.54
SGA, n (%)	0 (0%)	0 (0%)	1
Pregnancy/Peripartum complications, n (%)	3 (15.8%)	11 (28.9%)	0.35

Legend: aPL, Antiphospholipid syndrome; bDMARDs, biological disease-modifying antirheumatic drugs; BMI, Body mass index; cDMARDs, Conventional disease-modifying antirheumatic drugs; CRP, C-reactive protein; GC, Glucocorticoids; GW, gestational week; HELLP, haemolysis, elevated liver enzymes, and low platelets; Hypertensive disorder defined as gestational hypertension, preeclampsia and eclampsia; IQR, Interquartile range; IUGR, intrauterine growth restriction; LDA, Low-dose Aspirin; Pregnancy loss defined as early fetal-loss, miscarriage and still-birth; PROM, Premature rupture of membranes; SGA, Small for gestational age.

treated with LDA the live birth rate was of 84.4% with 27 live-birth pregnancies, 3 early miscarriages, 1 fetal loss and 1 stillbirth observed. There were no significant differences between the LDA and the not LDA groups regarding pregnancy/peripartum obstetric complications (p=0.14), although less adverse pregnancy/peripartum outcomes were registered in LDA patients' group (Table 1).

Conclusion: The preliminary data of this prospective cohort study show that LDA improve pregnancy outcome in IA even if women treated with LDA had more risk factors for APO. The extension of this cohort will allow us to further investigate these important results.

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POS0477

HIGH DISEASE ACTIVITY AT BASELINE AND SEROPOSITIVITY ARE ASSOCIATED WITH TREATMENT RESPONSE AT ONE YEAR POST SYNOVIAL BIOPSY IN RHEUMATOID ARTHRITIS PATIENTS

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Background: Despite recent therapeutic advances, our ability to predict prognosis and therapeutic response in RA remains imprecise.

Objectives: To determine biomarkers predictive of outcome at one year following arthroscopy.

Methods: RA patients were prospectively recruited and underwent knee arthroscopy performed under local anaesthetic. Each patient underwent a careful systematic assessment of demographic, clinical, and serologic factors on the day of arthroscopy and were reviewed at 2 weeks, 3, 6 and 12 months post arthroscopy. Erosive disease was defined based on plain-film radiographs of hands and feet. Disease activity at one year was used to define treatment response into responders (moderate/good EULAR Response) and non-responders.

Clinical characteristics, synovial tissue cell profiles and immunohistochemistry were analysed for T Cells (CD3), B Cells (CD20, CD138), macrophages (CD68) and vascularity (Factor VIII) to establish predictors of treatment response. All areas of each biopsy section were examined and the sub-lining layer independently scored by 2 observers using a well-validated semiquantitative scoring method, ranging from 0 to 4 (0=no staining, 1=<25%, 2=25-49%, 3=50-74%, and 4=75-100% staining). Factor 8 was scored by calculating the mean count of stained blood vessels per high-power field (at 20X magnification).

Results: There were no significant differences between responders and non-responders regarding gender, age, disease duration, medications, erosive status, ESR, CRP or synovitis or vascularity at arthroscopy (Table 1). Interestingly, rates of RF and ACPA positivity, tender and swollen joint counts, DAS28 and DAS28CRP were all higher amongst treatment responders. Immunohistochemistry was a very poor predictor of treatment response. There were no significant differences between the two groups in CD3, CD20, CD138, CD68 or Factor 8 score.

Table 1. Baseline Characteristics

	Responder (n=30)	Non-responder (n=18)	p value
Female	20 (66.7%)	14 (77.8%)	NS
Age	51.5 (11.2)	54.2 (10.9)	NS
Disease duration	0.5 (0-16)	0.5 (0-10)	NS
RF positive	22 (73.3%)	5 (27.8%)	0.003
ACPA positive	22 (73.3%)	8 (44.4%)	0.045
Erosions	8 (26.7%)	5 (27.8%)	NS
Medications			
No DMARD	23 (76.7%)	10 (55.6%)	NS
csDMARD only	4 (13.3%)	3 (16.7%)	NS
TNFi	2 (6.7%)	3 (16.7%)	NS
Other bDMARD	1 (3.3%)	2 (11.1%)	NS
Patient global health, VAS (mm)	54.2 (10-100)	51.5 (0-90)	NS
SJC (28 Joints)	4.5 (0-16)	1 (0-18)	0.001
TJC (28 Joints)	7 (1-25)	1 (0-15)	0.001
ESR, mm/hr	23 (2-120)	24 (2-81)	NS
CRP, mg/L	5 (1-95)	6.5 (1-64)	NS
DAS28	5.01 (1.95-7.36)	3.93 (1.40-6.62)	0.003
DAS28CRP	4.78 (2.82-7.13)	3.39 (1.21-6.26)	0.002
Synovitis, VAS	65 (10-100)	70 (30-100)	NS
Vascularity, VAS	60 (10-90)	70 (30-100)	NS