Table 1. Initial symptoms prior to diagnosis

Symptoms	N=438 (%)	Duration* (mean months $\pm$ SD)
Arthralgias	326 (74.4)	37.5 $\pm$ 69.4
Photosensitive rash	223 (50.9)	30.6 $\pm$ 70.2
Malar rash	168 (38.3)	22.6 $\pm$ 62
Alopecia	167 (38.1)	19.6 $\pm$ 54.6
Ulcers	106 (24.2)	16.8 $\pm$ 54.4
Fever	103 (23.5)	9.3 $\pm$ 43.8
Raynaud's phenomenon	146 (33.3)	22.3 $\pm$ 68.5
Fatigue	233 (53.1)	19.7 $\pm$ 45.7

*Mean time from symptom onset to established diagnosis

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POS0760

MONITORING C3 AND C4 VARIATIONS IN SYSTEMIC LUPUS ERYTHEMATOSUS PREGNANCIES IS USEFUL TO RECOGNIZE COMPLICATIONS. DATA FROM 2 ITALIAN CENTERS

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Background: In SLE pregnancies adverse pregnancy outcomes (APO) are more frequent than in general obstetric population (GOP). In clinical practice, low C3 and C4 levels are associated with active disease and, during pregnancy, complement activation products are shown to be associated with APO.

Objectives: To analyse complement variations during SLE pregnancies, focusing on disease flares and APO.

Methods: Data on SLE pregnancies prospectively-followed by multidisciplinary team in 2 Italian Centers from 1987 to 2018 were retrospectively analysed. C3 and C4 normal levels were calculated in general obstetric population (GOP) as previously described¹, and related to maternal and fetal outcome. Non categorical variables were compared using Mann-Whitney test or Wilcoxon test when appropriate.

Results: Two hundred forty-six pregnancies in 172 SLE patients were analysed (mean age at conception 31.3 $\pm$ 4.9 years; mean disease duration 8.3 $\pm$ 7.1). Anti-Ro antibodies were positive in 64 patients (37%) and anti-phospholipid antibodies (aPL) were positive in 84 (48%), with single positivity in 54%, double in 24% and triple in 21%; 9 patients (5%) had also a diagnosis of obstetric-antiphospholipid syndrome (APS) and 8 (4%) had thrombotic-APS. Seventy-one patients (41%) had history of Lupus Nephritis.

Thirty-five flares were recorded in 30 pregnancies (12%). APO occurred in 47 pregnancies (19%) and were: 27 fetal loss (20 early miscarriage <10th week and 7 intrauterine fetal death), 11 severe preterm birth (<34th week) and 15 hypertensive disorder (11 pre-eclampsia and 5 pre-eclampsia+HELLP syndrome).

Figure 1. Variations of C3 and C4 median levels (mg/dL) throughout pregnancy in GOP¹ and in SLE pregnancies without and with flare (a) and without and with APO (b).

In GOP, C3 progressively increased throughout pregnancy and C4 increase from the 1st trimester to the 2nd trimester, as well as in SLE pregnancies without flares and without APO, from preconception (Fig 1). In the other SLE groups, C3 and C4 showed a different trend: in pregnancies with flares, they did not increase from preconception to the 1st trimester; in fetal losses and severe pre-term births, they remained stable throughout pregnancy; in hypertensive disorders they increased only between preconception and the 1st trimester.

C3 and C4 levels were higher in GOP than in all SLE pregnancies groups (including those without flares and without APO) in each trimester. SLE pregnancies without flares showed higher C3 and C4 levels than pregnancies with flares, at preconception and in each trimester. SLE pregnancies without APO had higher C3 and C4 levels than pregnancies with fetal death at 2nd trimester, higher C3 levels than severe pre-term births in each trimester and higher C4 at 3rd trimester (Fig.1).

At preconception, pregnancies with flares showed a higher frequency of low C3 and of low C4 than in pregnancies without flares (76% vs 42%, $p=0.01$; 76% vs 26%, $p<0.001$, respectively). Using the normality range previously calculated in GOP, SLE pregnancies with flares had higher frequency of low C4 in every trimester as compared with pregnancies without flares (1st: 82% vs 48%, $p=0.003$; 2nd: 82% vs 64%, $p=0.01$; 3rd: 64% vs 30%, $p=0.002$). At multivariate analysis, low C4 at preconception was associated with flare (OR [95% CI]: 10.34 [2.52-42.39]; $p=0.001$).

* $p < 0.05$

^ as compared with SLE groups: $p < 0.05$; \$ as compared with SLE pregnancies without flare: $p < 0.05$; + as compared with SLE pregnancies without APO: $p < 0.05$

Conclusion: In SLE pregnancies, monitoring of C3 and C4 is important: its failure to increase can be useful to recognize potential risk situations which deserve particular monitoring.

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