

EP 17.31. Maternal vascular malperfusion: Association with adverse perinatal outcomes in pregnancies complicated with lupus

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Objectives

- To compare the incidence of high-grade maternal-vascular malperfusion (MVM) among patients with and without systemic lupus erythematosus (SLE) and to determine the potential association between such placental lesions and adverse perinatal outcomes.

Methods

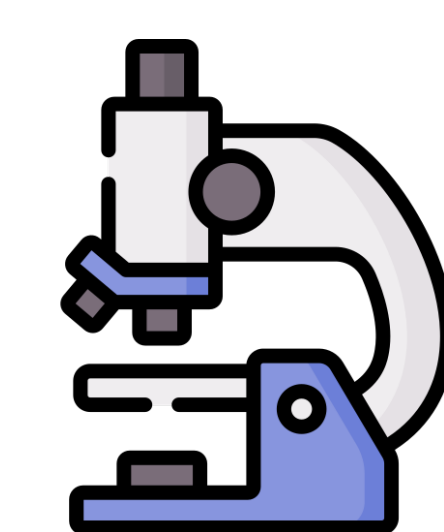
Comparative retrospective cohort study.

- Women ≥ 18 years with singleton pregnancies with and without SLE diagnosis per 2012 SLICC criteria with placental histopathology available characterized by the 2016 Amsterdam Working Group and classified by the placental severity phenotypes proposed by Freedman et al.
- The presence of high-grade MVM and severe perivillous fibrin deposition (PVFD) was compared between groups, and its association with fetal/neonatal death, birth < 37 weeks due to placental insufficiency (pre-eclampsia or fetal growth restriction), and small-for-gestational-age (SGA, birthweight $< p10$) neonates was assessed via univariable logistic regression models, reporting odds ratios (ORs) with 95% confidence intervals (CIs).



Results

A total of 260 patients were included, 130 with and 130 without SLE.



Placental weight was significantly lower in patients with SLE (388.89 ± 102.66 grams vs. 440.39 ± 81.12 grams, $P < 0.001$). **High-grade MVM (33.8% vs. 3.8%, $P = 0.001$) and severe PVFD (9.2% vs. 1.5%, $P = 0.006$) were higher in the SLE group.**



High-grade MVM was associated with higher odds of fetal/neonatal death (OR 6.81 [95% CI: 1.10, 41.95]), birth < 37 weeks due to placental insufficiency (OR 4.07 [95% CI: 1.71, 9.65]), and SGA (OR 5.81 [95% CI: 2.86, 11.79]). Severe PVFD was also associated with fetal/neonatal death (OR 13.50 [95% CI: 2.05, 88.53]), birth < 37 weeks (OR 4.28 [95% CI: 1.23, 14.85]), and SGA (OR 3.96 [95% CI: 1.30, 12.05]).

Conclusions

- High-grade MVM is prevalent in pregnancies with SLE and is strongly associated with higher odds of neonatal/fetal death, birth < 37 weeks due to placental insufficiency, and SGA neonates.** Furthermore, severe PVFD, a principal component of MVM, is also strongly associated with adverse perinatal outcomes.