BACKGROUND: Patients with systemic lupus erythematous, especially lupus nephritis (LN), have higher risk of thrombosis than the general population. Since use of corticosteroids also increase the risk of thrombosis, steroid pulse therapy (SPT) may increases the risk of thrombosis in patients with LN. However, few studies examined this association.

OBJECTIVES: To compare risk of thrombosis between patients with and without SPT in LN.

METHODS: This retrospective, propensity score-matched cohort study was conducted using claims data provided by Medical Data Vision Co., Ltd (Tokyo, Japan). We defined individuals as LN cases if they met all of the following: 1) were diagnosed as LN; 2) had a dose of corticosteroids (CS) over 30 mg/day during hospitalization between April 2009 and January 2018; 3) were 16 years old or over. Cases with central neurological lupus, alveolar hemorrhage, or pregnancy at baseline were excluded. Cases with plasmapheresis or antiplatelet therapies at the start of observation, warfarin within a year, direct oral anticoagulants within a month, major surgery or lower limbs operation within three months, past thrombosis within a year, and prophylactic treatment of thrombosis from the observation starting month were also excluded from the study population. LN cases were divided into 2 groups: receiving SPT (SPT group, n=692) or not receiving SPT (non-SPT group, n=525). The start of observation was defined as commencement of CS treatment during hospitalization. Observation stopped either on April 2018 or the month cases were withdrawn from the database or developed first thrombosis, whichever came first. Thrombosis was defined as follows: at least one of three disease courses from: 1) were diagnosed as LN; 2) had a dose of corticosteroids (CS) over 30 mg/day during hospitalization between April 2009 and January 2018; 3) were 16 years old or over. Cases with central neurological lupus, alveolar hemorrhage, or pregnancy at baseline were excluded. Cases with plasmapheresis or antiplatelet therapies at the start of observation, warfarin within a year, direct oral anticoagulants within a month, major surgery or lower limbs operation within three months, past thrombosis within a year, and prophylactic treatment of thrombosis from the observation starting month were also excluded from the study population. LN cases were divided into 2 groups: receiving SPT (SPT group, n=692) or not receiving SPT (non-SPT group, n=525). The start of observation was defined as commencement of CS treatment during hospitalization. Observation stopped either on April 2018 or the month cases were withdrawn from the database or developed first thrombosis, whichever came first. Thrombosis was defined as follows: at least one of three disease courses (thrombosis, embolisms and infarction) and prescription of thrombolytic agents after the start of observation. After propensity-score matching, the incidence rate of thrombosis at Month 1, 2, 3, 4 was calculated using Kaplan-Meier methods. Univariate analysis were conducted by chi-squared test for categorical data and Mann-Whitney U-test for continuous data. Adjusted odds ratio (OR) was calculated using a multivariate logistic regression model.

RESULTS: The mean age was 47 years old and the proportion of female was 76%. There were no statistically significant differences in baseline variables between the two groups after propensity-score matching (both groups: n=434). The percentage of cases with thrombosis in both groups at each month were similar (SPT vs non-SPT at Month 1, 2, 3, 4: 3.0% vs 4.4% (p=0.29), 3.5% vs 5.1% (p=0.24), 3.9% vs 5.3% (p=0.331), and 4.6% vs 5.5% (p=0.536), respectively). There were no significant differences in cumulative incidence rates of thrombosis between the two groups (P=0.265 by log-rank test). Univariate analysis revealed five risk factors of thrombosis: activity of daily living (p=0.004), hepatic failure (p=0.0001), malignancy (p=0.02), and use of methotrexate (p=0.0038) and oral contraceptive (p=0.037). After adjusting for covariates, OR of SPT was 0.82 (95%CI 0.44-1.52), which was not significantly elevated.

Conclusion: This study revealed that SPT did not increase the risk of thrombosis in patients with LN.

REFERENCES:
Background: Pregnancies in women with inflammatory and autoimmune diseases are considered high-risk pregnancies, so close and ideally multidisciplinary control is necessary. Given the advances in treatment and identification of risk factors, a higher percentage of patients manifest gestational desire. Given the advances in treatment and identification of risk factors, a higher percentage of patients manifest gestational desire.

Objectives: To describe our experience in a multidisciplinary unit (integrated by Rheumatologists and Obstetrics) and assess the complications in the evolution of pregnancies and treatments used in patients with inflammatory and autoimmune diseases.

Methods: Retrospective study of pregnancy outcome in patients with rheumatic diseases and follow-up in a multidisciplinary unit for 15 years (January 2003-December 2018). Demographic characteristics, maternal disease, comorbidities, previous abortions, presence of autoantibodies (AAb), number of births, fetal losses and abortions during follow-up, previous treatment and treatment during pregnancy and maternal and fetal complications were collected.

Frequencies and percentages were used in qualitative variables, mean ±SD in quantitative and for the comparison between groups Chi2 test (or Fisher test if appropriate) was used in categorical variables and Student T test (or U of Mann-Whitney if appropriate) in quantitative variables. Data was analysed using IBM SPSS v23.

Results: 141 patients (194 pregnancies) were registered with maternal average age at rheumatic disease diagnosis of 29.14 ± 6.6 years and average age at abortion/childbirth of 34.82 ± 4.63 years. 12.8% were smokers and 21.1% had comorbidity (hypothyroidism:10.8%, dyslipidemia:2.1%). Maternal diseases are collected in table 1. 50 abortions were registered prior to follow-up in our unit (0.35 abortions/mother). During follow-up 19 abortions were registered (0.13 abortions/mother). Frequencies of abortions/births are specified in table 1. 13.5% of pregnancies were pre-term (< 37 weeks) and a caesarean section (C-section) was performed in 26% of cases. C-section was more frequent among asymptomatic women with positive autoantibodies (n:15, 37.5%) and pre-eclampsia in 6 (3%) being more frequent among patients with SLE (n:3 and n:2 respectively), APS (n:1 and n:1) and asymptomatic women with positive autoantibodies (n:2 and n:1). No difference was observed in complications rate between anti-Ro positive and anti-Ro negative women (p = 0.047). Treatments used prior to and during pregnancy are shown in table 3. Conclusion: In our series, as previously described in the literature, women with systemic autoimmune and inflammatory diseases have higher risk of abortion, pregnancy complications and instrumental delivery than general population. SLE and APS are most associated with these complications. Multidisciplinary close follow-up of these patients improves pregnancy outcomes.

REFERENCES:


Intrauterine growth restriction (IUGR) was observed in 7 cases (3.7%) and pre-eclampsia in 6 (3%) being more frequent among patients with SLE (n:3 and n:2 respectively), APS (n:1 and n:1) and asymptomatic women with positive autoantibodies (n:2 and n:1). No difference was observed in complications rate between anti-Ro positive and anti-Ro negative women (p = 0.047).

Treatments used prior to and during pregnancy are shown in table 3.

Conclusion: In our series, as previously described in the literature, women with systemic autoimmune and inflammatory diseases have higher risk of abortion, pregnancy complications and instrumental delivery than general population. SLE and APS are most associated with these complications. Multidisciplinary close follow-up of these patients improves pregnancy outcomes.