FRI0238

RISK OF THROMBOSIS IN PATIENTS RECEIVING STEROID PULSE THERAPY IN LUPUS NEPHRITISUSING JAPANESE HEALTH INSURANCE DATABASE

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Background: Patients with systemic lupus erythematosus, especially lupus nephritis (LN), have higher risk of thrombosis than the general population¹. Since use of corticosteroids also increase the risk of thrombosis², steroid pulse therapy (SPT) may increase 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 Observation stopped either on April 2018 or the month cases were withdrawn from the database or developed first thrombosis, whichever came first.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 names (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, and 4; 3.0% vs 4.4% (p=0.28), 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=0.038) 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.

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Disclosure of Interests: Suguru Honda: None declared, Ryoko Sakai Grant/research support from: Tokyo Women's Medical University (TWMU) has received unrestricted research grants for Division of Epidemiology and Pharmacoepidemiology of Rheumatic Diseases from Ayumi Pharmaceutical Co. Ltd., Bristol Meyers Squibb, Chugai Pharmaceutical Co. Ltd., Nippon Kayaku Co. Ltd., Taisho Toyama Pharmaceutical Co. Ltd., Mitsubishi Tanabe Pharma Corp., and with which TWMU paid the salary of R.S. RS has received a research grant from Bristol-Meyers Squibb, sho suzuki: None declared, masako majima: None declared, naoko konda: None declared, hideto takada: None declared, masayoshi harigai Grant/research support from: Tokyo Women's Medical University (TWMU) has received unrestricted research grants for Division of Epidemiology and Pharmacoepidemiology of Rheumatic Diseases from Ayumi Pharmaceutical Co. Ltd., Bristol Meyers Squibb, Chugai

Pharmaceutical Co. Ltd., Nippon Kayaku Co. Ltd., Taisho Toyama Pharmaceutical Co. Ltd., Mitsubishi Tanabe Pharma Corp., and with which TWMU paid the salary of MH. MH has also received research grants from AbbVie Japan GK, Eisai Co. Ltd., Takeda Pharmaceutical Co., Ltd., and Teijin Pharma Ltd., Hisashi Yamanaka Grant/research support from: AbbVie, Eisai, Bristol-Meyers, Novartis, Behringer, Astellas, Kaken, Nippon-Shinyaku, Pfizer, UCB, Ayumi, Ono, Daiichi-Sankyo, Taisyo-Toyama, Takeda, Tanabe-Mitsubishi, Chugai, Teijin Pharma, Torii, YLbio, Speakers bureau: Bristol-Meyers, Astellas, Pfizer, Daiichi-Sankyo, Takeda, Tanabe-Mitsubishi, Chugai, Teijin Pharma, YLbio

DOI: 10.1136/annrheumdis-2019-eular.3606

FRI0239

HIGHER DOSE OF ADJUNCTIVE GLUCOCORTICOID THERAPY IS ASSOCIATED WITH MORTALITY OF PNEUMOCYSTIS PNEUMONIA IN PATIENTS WITH RHEUMATIC DISEASES

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Background: Pneumocystis pneumonia (PCP) is a fatal complication in patients with rheumatic diseases, and prognostic factors are not well recognized.¹ Adjunctive glucocorticoid therapy is beneficial for PCP in patients with acquired immunodeficiency syndrome, but the role in patients with rheumatic diseases is debated.²

Objectives: To investigate the prognostic factors of PCP in patients with rheumatic diseases.

Methods: Retrospective data was collected for all subjects with rheumatic diseases and PCP between October 2015 and October 2018 in a tertiary referral center. PCP was diagnosed via a positive sputum *Pneumocystis jirovecii* PCR in the presence of a compatible clinical presentation. The clinical characteristic, underlying rheumatic diseases, comorbidity, immunosuppressants, adjunctive glucocorticoid dose, and outcome were evaluated. Chest X-ray (CXR) was evaluated as a radiographic score (0-18), and a higher score suggested a more severe lung involvement. The prognostic factors of mortality were analyzed by multivariate logistic regression analysis.

Results: 40 patients with PCP and rheumatic diseases were included. The mean age of the patients was 55.7 years, and twenty (50%) were female. The underlying rheumatic diseases were systemic lupus erythematosus (30%), rheumatoid arthritis (22.5%), Sjögren's syndrome (12.5%), systemic vasculitis (12.5%), antiphospholipid syndrome (10%), idiopathic inflammatory myopathies (10%), undifferentiated connective tissue disease (7.5%), and psoriatic arthritis (2.5%). All subjects were separated into survivors (n=17) and non-survivors (n=23) groups. The overall in-hospital mortality rate was 57.5%. The group of non-survivors had a higher adjunctive glucocorticoid dose (p=0.016), an older age (p=0.017), and a higher CXR radiographic score (p=0.029). In multivariate analysis, independent predictors of mortality were increased glucocorticoid dose (>10mg/day) as adjunctive therapy (odds ratio, OR=5.58, 95% confidence interval, C.I.=1.09-28.62; p=0.039), age (OR=1.06, 95% C.I.=1.00-1.11; p=0.037), and CXR radiographic score (OR=1.21, 95% C.I.=1.00-1.47, p=0.048).

Conclusion: Increased glucocorticoid dose (>10mg/day) as adjunctive therapy, older age, and CXR radiographic score were independently prognostic factors of mortality in PCP patients with rheumatic diseases.

Disclosure of Interest: None declared

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.3413