Conclusion: Forty percent of U.S. rheumatologists participating in RISE used the registry for federal quality reporting. Physicians using RISE for reporting were disproportionately in small and solo practices, suggesting that the registry is fulfilling an important role in helping these practices participate in national quality reporting programs. Supporting small practices is especially important given the workforce shortages in rheumatology. We observed that practices reporting through RISE had higher measure performance than other participating practices, which suggests that the registry is facilitating quality improvement. Studies are ongoing to further investigate the impact of federal quality reporting programs and RISE participation on the quality of rheumatologic care in the United States.

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FRI0525   **INFLUENZA VACCINATION COMPLIANCE AND RESPONSE IN AUTOIMMUNE INFLAMMATORY RHEUMATIC DISEASE PATIENTS: A COHORT STUDY**

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Background: Patients diagnosed with autoimmune inflammatory rheumatic diseases (AIIRD) have higher risk of developing infections due to immunological dysfunction and immunosuppressive treatments. Current guidelines recommend annual influenza vaccination to reduce infection risk in this group of patients. However, vaccination response in these patients is uncertain.

Objectives: To study influenza vaccination compliance and response in a Danish AIIRD patient population.

Methods: AIIRD patients on biological treatment ± synthetic disease-modifying antirheumatic drugs (sDMARDs) in our department of rheumatology and registered in the Danish Rheumatological database (DANBIO) were included in the current study. The patients were encouraged to be vaccinated against influenza in the 2018/19 winter season. Status of influenza vaccination for the period of 1.9.2018 to 31.12.2018 was reviewed in each patient using the Danish Vaccination Register (DDV) and Danish Electronic Medicine Module (FMK). Patient data were collected by review of the medical files. Serum samples from each patient were collected on two occasions: 1) from 1.6.2017 to 15.5.2018 (before vaccination) and 2) from 1.11.2018 to 1.3.2019 (after vaccination), respectively. Antibody titers against the three antigens included in the trivalent 2018/2019 seasonal influenza vaccine were measured by hemagglutination inhibition assay followed by determination of geometric mean titers (GMT).

Results: Among a total of 226 study eligible AIIRD patients, 111 (49%) had been influenza vaccinated. In the remaining group of 115 (51%) non-vaccinated patients, 50 were randomly contacted by telephone to ensure the accuracy of DDV registration. All 50 confirmed non-vaccinated status. Median age of vaccinated group was 65 years while of non-vaccinated group was 57 years ($p \leq 0.00001$). Median GMT increased from 10 to 22 in the group of vaccinated patients versus from 6 to 10 in the group of non-vaccinated patients ($p < 0.0001$). GMT increased ≥ 2-fold in 79 (71%) of 111 influenza vaccinated in comparison to 60 (52%) of 115 non-vaccinated patients ($p \leq 0.003$). Among influenza vaccinated patients, median age of responders (≥ 2-fold increase in GMT) was 66 years versus non-responders 63 years ($p = 0.3$). In the influenza vaccinated group, ≥ 2-fold increase in GMT was seen in 51 (73%) of 70 patients receiving methotrexate compared to 28 (68%) of 41 in patients not receiving methotrexate ($p = 0.6$).

Conclusion: Only half of the patients were compliant to the vaccination recommendations in the 2018/2019 influenza season despite the information campaign. Response rate of influenza vaccination (≥ 2-fold GMT increase) was 71% in AIIRD patients receiving immunosuppressive treatments. In contrast to other studies, concurrent methotrexate treatment did not attenuate serological response of influenza vaccination. We are still exploring the causes of increased influenza antibody titers in non-vaccinated group.

References:

[1] Kapetanovic MC, Kristensen LE, Saxne T, et al. Impact of anti-rheumatic treatment on immunogenicity of pandemic H1N1 influenza vaccine in patients with arthritis. Arthritis Res Ther 2014;16:R2.

[2] Hua C, Barnetche T, Combe B, et al. Effect of methotrexate, anti-tumor necrosis factor α, and rituximab on the immune response to influenza and pneumococcal vaccines in patients with rheumatoid arthritis: a systematic review and meta-analysis. Arthritis Care Res 2014;66:1016–26.

[3] Furer V, et al. 2019 update of EULAR recommendations for vaccination in adult patients with autoimmune inflammatory rheumatic diseases. Ann Rheum Dis 2020;79:39–52. doi:10.1136/annrheumdis-2019-215882

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FRI0526   **THE INCIDENCE, PREVALENCE AND MEDICATION USE OF RHEUMATOID ARTHRITIS AMONG KOREAN WOMEN IN CHILDBEARING YEARS: A NATIONWIDE POPULATION-BASED STUDY**

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Background: Rheumatoid arthritis (RA) predominantly affects women and has a significant impact on childbearing. Several population-based studies identifying incidence, prevalence, and medication use of RA have been reported, yet epidemiological studies focusing on women with RA in childbearing years are missing.

Objectives: We aimed to identify the incidence, prevalence and medication use of RA among Korean women in childbearing years.

Methods: From National Health Insurance Service (NHIS) data (2009-2016), containing inpatient and outpatient claim information for approximately 97% of the Korean population, we identified 9,217,139 women aged between 20-44 years. Incidence and prevalence of RA in the specific sociodemographic group of women in childbearing age were analyzed, and the prevalence of medication prescription were compared between women with RA and controls without rheumatic diseases such as RA, systemic lupus erythematosus, and ankylosing spondylitis. Individuals with RA were defined by the presence of International Classification of Disease, 10th revision code, M05. The medication use was defined as receiving > 90days prescriptions of NSAIDs, corticosteroids (CSs), and conventional synthetic (cs) disease modifying antirheumatic drugs (DMARDs) or > 1day prescription of biologic (b) DMARDs.

Results: Total 24,590 women with RA were identified. The average incidence of RA during 2011-2016 among women in childbearing years was 24.1/100,000 person-years (PYs) (95% CI 20.91-27.31) with a yearly increase from 20.99/100,000 PYs in 2011 to 28.38/100,000 PYs in 2016. The average prevalence of RA during 2009-2016 among women in childbearing years was 105.2/100,000 PYs (95% CI 99.0-111.5) with a minimum of 95.7/100,000 PYs in 2009 and a maximum of 110.5/100,000 PYs in 2016. There were increasing trends in both incidence and prevalence of RA according to age among women in childbearing years peaking in the age group of 40-44 years. The prescriptions of NSAIDs, CSs, csDMARDs and bDMARDs were more frequent in women with RA than controls (NSAIDs; 94.21% vs 21.79%, CSs; 83.65% vs 4.28%, csDMARDs; 91.23% vs 0.41%, bDMARDs; 0.11% vs 0%, p<0.001).

Conclusion: The incidence and prevalence of RA are high among Korean women in childbearing years, and medication use was significantly more frequent in this specific population than controls. High disease burden is imposed upon women in childbearing years.

References:

[1] Won S, Cho SK, Kim D, Han M, Lee J, Jang EJ, Sung YK, Bae SC: Update on the prevalence and incidence of rheumatoid arthritis in Korea and an analysis of medical care and drug utilization. Rheumatol Int 2018, 38(4):649-656.

[2] Smeele HTW, Dolhain R: Current perspectives on fertility, pregnancy and childbirth in patients with Rheumatoid Arthritis. Seminars in arthritis and rheumatism 2019, 49(3s):S32-s35.

Table 1.   Medication use among women with RA and controls in childbearing age between 20-44 years during 2009-2016

	Control (n=155,486)		RA (n=23,756)		
	n	(%)	n	(%)	P
NSAIDs	33,887	(21.79)	22,380	(94.21)	<.0001
Steroids	6,653	(4.28)	19,871	(83.65)	<.0001
csDMARDs	634	(0.41)	21,673	(91.23)	<.0001
bDMARDs	0	(0.00)	27	(0.11)	<.0001

RA, rheumatoid arthritis; NSAID, non-steroidal anti-inflammatory drug; cs, conventional synthetic; b, biologic; DMARDs, disease modifying antirheumatic drugs