FRI0152 RHEUMATOLOGISTS' EXPERIENCES AND VIEWPOINTS TOWARDS MANAGING RHEUMATOID ARTHRITIS IN ELDERLY PATIENTS: A QUALITATIVE STUDY

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Background: The number of elderly individuals with rheumatoid arthritis (RA) is expanding in Europe, mainly due to an increase in life expectancy. As a result, management of these patients, e.g. the application of the treat-to-target and tight control principles, shall have to account for frailty and comorbidity. However, knowledge about how rheumatologists perceive and manage RA in the elderly patient population is limited.
Objectives: To explore the viewpoints of rheumatologists on management goals in elderly RA patients and the influence of factors such as age, frailty and comorbidity on these goals. Furthermore, experiences of rheumatologists with regard to outcome instruments to guide management in elderly patients were assessed.
Methods: A qualitative study involving semi-structured interviews with rheumatologists was conducted. Two readers independently annotated the transcripts of the interviews. Important concepts were taxonomically categorized and later combined in overarching themes by using NVivo 11.
Results: Seventeen rheumatologists were purposively sampled from nine medical centres (mean age: 44.8 years (SD 7.7 years); 29% male). High levels of frailty and comorbidity frequently influenced management goals of rheumatologists: in these cases, preserving an acceptable functional status prevailed over the treat-to-target and tight control principles. For instance, most rheumatologists accepted the presence of tender and swollen joints when overall functioning and social participation were not or only minimally impaired. In patients ≥80 years, age instead of frailty and comorbidity was the most prominent factor that steered management. On that line, almost all rheumatologists admitted that their management strategy is less driven by the result of the Disease Activity Score-28 (DAS28), since comorbidity (e.g. osteoarthritis) and an age-related physiological Erythrocyte Sedimentation Rate (ESR)-elevation might distort the DAS28 value. Instead, before adapting anti-rheumatic therapy, rheumatologists weighted the frailty and comorbidity levels of a patient and the functional consequences of these factors such as cognitive and physical decline, dependency and polypharmacy (quote 1, Table 1). This frequently resulted in a less future-oriented management approach that was not aimed at the maximal prevention of joint erosions and deformities (quote 2, Table 1). Rheumatologists reported that a lack of time to evaluate all comorbid conditions, as well as contradictory advices of other medical specialists often complicated the management of elderly RA patients.

Table 1. Illustrative quotes made by rheumatologists.

Quote	
1	'I sometimes ask my patients: what physical complaint bothers you the most? The RA, the heart failure or something else? Treat what actually limits an elderly patient.'
2	'I wonder if low-dosage prednisone for the rest of their lives is considerably worse than to initiate biological therapy and cause a life-threatening infection?'

Conclusions: Commonly accepted RA treatment paradigms such as treat-to-target and tight control are not automatically adopted in the elderly patient population. Maintaining a patient acceptable functional status prevails. Future RA management recommendations for elderly RA patients are needed and should account for factors such as frailty and comorbidity.
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FRI0153 COMPARISON OF CARDIOVASCULAR RISK IN PATIENTS WITH RHEUMATOID ARTHRITIS TREATED WITH BIOLOGICS VERSUS METHOTREXATE: RESULTS AT 24-MONTHS OF FOLLOW-UP

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Background: Rheumatoid arthritis (RA) is associated with increased risk of atherosclerotic cardiovascular (CV) disease. Treatment with conventional systemic disease modifying drugs (csDMARDs) such as methotrexate (MTX), as well as biological DMARDs (bDMARDs), has been shown to decrease CV risk. Although bDMARDs specifically target inflammation common to RA and atherosclerosis, whether or not cardioprotective effects associated with bDMARD use is superior to csDMARDs, remains to be determined.
Objectives: To investigate 10 year-CV risk, and incidence of new myocardial infarctions (MI), in RA patients treated with either MTX or bDMARD mono/combination therapy, in a Canadian routine clinical care setting
Methods: RA patients were prospectively followed between January 2011-March 2014. Parameters collected were patient demographics, RA disease activity parameters, traditional CV risk factors, lipid parameters, and 10-year CV risk, assessed using the Framingham Risk Score (FRS). Between-group differences in change from baseline to month 24 in FRS, disease activity, and lipid parameters were assessed with the two sample t-test or the Chi-Square statistic; within-group differences were assessed with the paired-samples t-test or the McNemar-Bowker test. Adjusted change in FRS was ascertained using general linear models, and logistic regression identified predictors of MI.
Results: A total of 517 RA patients receiving bDMARDs (n=313) or MTX (n=199), were included. Mean (SD) age was comparable between cohorts [57.57 (12.11) years vs. 59.58 (12.60), p=0.11; bDMARD vs. MTX, respectively], as was female gender (76.7% vs. 73.9%, p=0.268). Patients receiving bDMARDs had significantly ($p<0.05$) longer mean (SD) RA duration [12.63 (9.95) vs. 7.88 (6.94) years] and higher total comorbidities [3.96 (2.53) vs. 3.38 (2.32)]. Mean (SD) baseline FRS was 11.84 (9.38) vs. 12.36 (9.19) percent (p=0.564; bDMARDs vs. MTX, respectively), and patient distribution across low (62.3% vs. 54.8%), intermediate (9.9% vs. 12.2%) and high (27.8% vs. 33.2%) FRS risk categories was comparable (p=0.239).
At month 24, FRS category remained stable in bDMARD patients (low: 58.8%; intermediate: 14.2%; high: 27.0%; p=0.380), whereas a shift in FRS category was observed in MTX patients (low: 69.6%; intermediate: 10.1%; high: 27.0%, p=0.006). Within-group changes in FRS were significant for both MTX ($p<0.001$) and bDMARD patients (p=0.016). Adjusted mean change (SE) in FRS was higher in MTX patients [-1.37 (0.30) vs. -0.72 (0.25)], although not statistically different (p=0.098). Incidence of new MI was similar between groups (MTX: 3.8% vs. dDMARD: 3.0%; p=0.421), and predictors [OR (95% CI)] identified were: higher total comorbidities [1.45 (1.24, 2.20), $p<0.001$], age [1.07 (1.00, 1.13), p=0.037], and male gender [4.00 (1.38, 11.57), p=0.011].
Conclusions: Significant improvement in CV risk at 24 months was observed during treatment with both MTX and bDMARDs. As predictors of MI did not include several established CV risk factors, longer studies, as well as the development of an RA-specific tool, may permit better assessment of CV risk in RA patients.
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FRI0154 THE TOLERABILITY OF VACCINATION AGAINST PNEUMOCOCCUS IN CHILDREN WITH JUVENILE IDIOPATHIC ARTHRITIS

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Background: Children with chronic rheumatic diseases, including juvenile idiopathic artritis, are at high risk of bacterial and viral infections. The risk of complications and severity of infectious diseases are increased in immunosuppressive therapy due to given the long-term use.
Objectives: To evaluate the safety and tolerability of vaccination against pneumococcus in children with juvenile idiopathic arthritis.
Methods: The analysis included 39 patients with juvenile idiopathic arthritis who were in remission. Patients were divided into two groups, depending on the type of immunosuppressive therapy. Group 1 (n=24) consisted of patients receiving etanercept, mean age 5,4±2,5, observed 48 patient-years; Group 2 (n=15), patients who received methotrexate mean age 6,8±3,2, observed 30 patient-years. All patients had been vaccinated by 13-valent pneumococcal polysaccharide conjugate vaccine (13PPV). Recorded the incidence of infection diseases (such as pneumonia, tonsillitis, otitis media, etc.) in the 12 months prior to vaccination and 12 months after vaccination. All patients monitored the development of adverse events against the background of vaccination.
Results: The study showed a decrease in the incidence ofinfection diseases after vaccination in the first group from 5,4±1,66 to 1,7±0,77, in second group from 4,4±1,05 to 1,6±0 73, ($p<0.05$). Adverse events related to vaccination are presented in the table. Results of the study showed no relapse of the underlying disease following immunization. Adverse events related to vaccination are presented in the table.
Conclusions: The results showed a good tolerability of the vaccine, no relapse of the underlying disease following immunization, as well as a statistically significant ($p<0.05$) reduction in the incidence following immunization.
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Adverse events	Group I: Methotrexate	Group II: Etanercept
Total, n	6	3
Hyperemia and soreness at the injection site	3	2
Swelling at the site of vaccine injection	1	1
Fever	1	–
Headache	1	–

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FRI0155 PREVALENCE OF HBV INFECTION AND RISK OF REACTIVATION ON BIOLOGIC TREATMENT: A POPULATION-BASED OBSERVATIONAL STUDY OF RHEUMATOID ARTHRITIS SUBJECTS IN A NORTHERN ITALY AREA

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Background: The introduction of biologic agent's treatment in rheumatic diseases dramatically changed their outcome, but raised some concerns about infections recrudescence. Due to the prevalence of hepatitis B virus (HBV) among Italian general population (2–6%), the possibility of a disease reactivation in case of an immunosuppressive treatment has to be considered.
Objectives: Aim of this prospective, population-based observational study was to assess the prevalence of HBV (both in chronic carriers and recativated) rheumatoid arthritis (RA) patients in our setting; to verify if these findings were in line to the Italian and European-reported data; finally, to evaluate the final outcome of HBV RA subjects.
Methods: We enrolled the totality of RA patients treated by biologics and, therefore, consulting our Unit at least every 12 weeks, from December 2015 to January 2017. According to the current (ACR/EULAR and AASLD) guidelines, every subject was screened for HBV before starting biologic treatment. Descriptive statistics was performed. Acute infection; previous (resolved) infection; inactive and active carrier; and vaccine-immunized subjects were defined according to Tab. I.
Results: A totality of 265 RA patients (female 56.3%; male 43.7%; mean age 36+/-20 years) underwent biologic treatment after succeeding the screening (HBsAg+ subjects were excluded). The huge majority of them (82%) was treated by TNF-alpha inhibitors (TNFi), since the remaining received biologic agents with different mechanisms of action. We overall detected 33 (12.5%) inactive carriers, for whom HBsAg and HBV DNA periodical monitoring was suggested; in 3 of them (1.1% of the study population), HBV DNA became detectable, with a low viral load (<2000 UI/ml): they prosecute the biologic therapy after the introduction of the standard prophylaxis (lamivudine 100 mg daily) and a more strictly (periodic liver enzymes and liver ETG evaluation) monitoring.
In occasion of the screening, we observed 6 (2.3%) HBV-immunized (due to vaccine) and 6 (2.3%) previously infected (HBcAb+) patients: for the first ones no action is required, since the latter were put on standard prophylaxis before undergoing biologic agent and monitored. One of them (0.38%) developed, after 6 months of treatment, HBV reactivation with high-level (>2000 UI/ml) detectable DNA and liver enzymes elevation (>normality x3). She was therefore stopped from receiving biologic agent and put on entecavir 1 mg daily.

Interpretation of HBV serologic test results

	HBsAg	HBsAb	HBcAb IgM	HBcAb IgG	HBeAg	HBV DNA
Acute infection	POS	neg	POS	neg	POS	POS
Past infection (resolved)	neg	POS	neg	POS	neg	neg
Inactive carrier	POS	neg	neg	POS/neg	neg	neg
Active carrier	POS	neg	neg	POS	POS/neg	POS
Vaccine induced immunity	neg	POS	neg	neg	neg	neg

POS: positive; neg: negative; HBsAg: hepatitis B surface antigen; HBsAb: hepatitis B surface antibody;
HBcAb: hepatitis B core antibody; HBeAg: hepatitis B envelope antigen.

Conclusions: Our prospective, population-based observational study, performed in a first-level referring Hospital in a highly populated area, suggests some considerations. In a way, our data reported a significantly higher prevalence of HBV infection "contact" among our RA population, in comparison to the general one ($p<0.05$). This issue has previously been reported and could be justified but the generally higher HBV diffusion in certain area (i.e., Italy); by the age/ethnicity of the sample; and, finally, by the bias consisting in an extensive screening of these patients. On the other hand, our experience suggests that a tight monitoring of parameters predicting infectious flare should lead to a prompt diagnosis and a lower number of complications for these peculiar patients, as observed in our population.
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FRI0156 DO CHANGES IN ADIPOCYTOKINES CORRELATE WITH CHANGES TO DISEASE ACTIVITY IN RHEUMATOID ARTHRITIS? FINDINGS FROM THE TOMORROW STUDY

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Background: Cytokines released from mast cells evoke inflammation and correlate with arteriosclerotic lesions and autoimmune disease[1]. The relationship between disease activity and lipid metabolism is a notable in research surrounding rheumatoid arthritis (RA). RA patients without disease control reportedly show high titers of leptin or adiponectin as adipocytokines[2].
Objectives: We analyzed the interaction between changes in disease activity and adipocytokines using data from the TOMORROW (TOtal Management Of Risk factors in Rheumatoid arthritis patients to lOWer morbidity and mortality clinical trial) study, a 10-year prospective study (registration number, UMIN000003876).
Methods: We analyzed data collected from the cohort of the TOMORROW study including 193 patients with RA and age- and sex-matched 194 healthy individuals (controls). We compared changes in leptin and adiponectin (Δleptin and Δadiponectin) in both groups between baseline and after 3 years. Correlations with the change in disease activity (ΔDAS28ESR) during 3 years and changes in Δleptin and Δadiponectin in RA were investigated by univariate analysis.
Results: Leptin levels increased in both groups. No significant differences in Δleptin were seen between RA (0.21 ng/ml) and controls (0.18 ng/ml; p=0.37). On the other hand, adiponectin was significantly decreased in controls (-3.3 μg/ml) compared to RA (-1.8 μg/ml; p=0.01). Negative correlations between Δleptin and Δadiponectin were detected in the RA group ($r=-0.29$, $p<0.01$). The correlation between adiponectin and DAS28ESR was positive both at baseline ($r=0.22$, p=0.01) and after 3 years ($r=0.18$, p=0.01). However, no such tendencies were seen for leptin. Table 1 shows details of the correlations with changes in adipocytokine. In terms of the relationship with ΔDAS28ESR, no correlation was seen with Δleptin ($r=0.07$, p=0.31) or Δadiponectin ($r=-0.01$, p=0.91). Changes in lipid metabolic markers and fat percentages were detected as predictive factors for Δadipocytokines.

Table 1. Correlations with changes in adipocytokine by univariate analysis

	R	*P*
ΔAdiponectin		
Baseline age	-0.199	0.006
ΔHigh-density lipoprotein	0.265	0.001
ΔFat percentage	-0.144	0.046
ΔDAS28ESR	-0.009	0.906
ΔLeptin		
Baseline age	0.258	0.001
ΔLow-density lipoprotein	0.347	0.001
Δfat percentage	0.554	0.001
Fall	-0.145	0.045
ΔDAS28ESR	0.074	0.311

Conclusions: Leptin increased and adiponectin decreased over the course of 3 years. Correlations between Δadipocytokines and ΔDAS28ESR were not detected. RA patients with high disease activity show higher adiponectin titers.
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FRI0157 FERTILITY IN WOMEN WITH RHEUMATOID ARTHRITIS COMPARED TO HEALTHY CONTROLS

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Background: Data suggest infertility is increased in women with rheumatoid arthritis (RA) compared to healthy women. Therefore, it is possible that diminished ovarian reserve and ovulatory dysfunction may be more common among women with RA.
Objectives: To compare differences in ovarian reserve and ovulatory frequency, as well as in self-reported infertility, between women with and without RA.
Methods: Women with RA aged 20–40 seen in a university clinic without a history of ovarian surgery or prior exposure to possible ovary-toxic medications were invited to participate in a cross-sectional survey. Healthy controls were women aged 20–40 without an autoimmune disease, matched for age and current use of hormonal contraceptives. Infertility was defined as a patient reporting physician-diagnosed infertility or being unable to get pregnant after 12 months of trying. Ovarian reserve was assessed by measuring anti-Müllerian hormone (AMH). In women who were not taking hormonal contraceptives, progesterone level was measured from a serum sample drawn between days 21 and 23 of the menstrual cycle. Anovulation was defined as a progesterone level <3 ng/mL. In