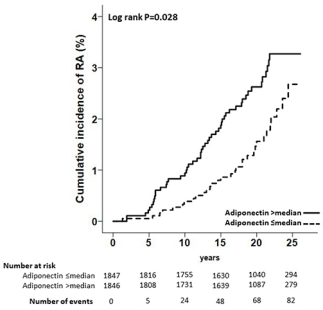

Abstract THU0088 – Figure 1. Cumulative incidence of RA in the SOS study stratified by baseline adiponectin

Disclosure of Interests: Cristina Maglio: None declared, Yuan Zhang: None declared, Christian Herder Speakers bureau: Eli Lilly, Sanofi-Aventis Deutschland, Anna Rudin Grant/research support from: I have received research grants från AstraZeneca (2017-2018), Consultant for: I was paid consultant för AstraZeneca (2015-2018), Lena Carlsson Consultant for: I have received lecture fees from AstraZeneca, MSD and Johnson&Johnson
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THU0089 ASSOCIATION OF ANTI-PAD4 ANTIBODIES WITH EROSION AND BIOLOGICAL TREATMENT USE IN RHEUMATOID ARTHRITIS

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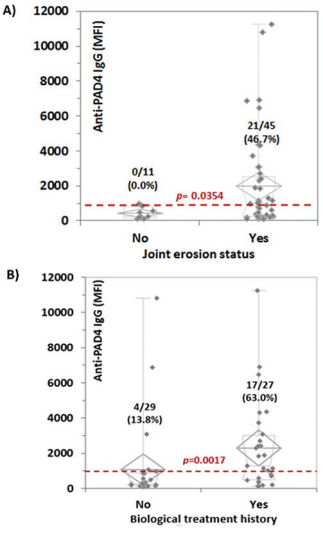
Background: Novel biomarkers have been described in rheumatoid arthritis (RA) patients, including antibodies to carbamylated proteins (anti-CarP) and to protein-arginine deiminases (PAD). Anti-PAD4 antibodies are associated with anti-citrullinated protein antibodies (ACPA) and worse baseline radiographic joint damage [1]. A subset of anti-PAD4 antibodies that cross-react with PAD3 and are associated with erosive disease, ACPA and progress despite treatment have also been described [1].
Objectives: To evaluate several novel RA markers in a cohort of RA and controls and their association with erosive disease and biological treatment use in RA.
Methods: Sera from 116 RA patients [63 young onset RA (YORA) and 53 elderly onset RA (EORA)] and 155 controls [134 polymyalgia rheumatica (PMR) patients and 21 healthy individuals (HI) older than 60 years old] were included. Information on erosion status and biological treatment was available for 56 of the RA patients. The samples were tested for anti-PAD3 and anti-PAD4 IgG using the novel particle-based multi-analyte technology (PMAT, research use only, RUO), as well as for ACPA [CCP3 IgG ELISA and chemiluminescent immunoassay (CIA)] and anti-CarP IgG (ELISA, RUO).
Results: Significantly higher levels of anti-PAD3, anti-PAD4 and ACPA (ELISA and CIA) but not CarP were observed in YORA vs. EORA (p<0.0001 for anti-PAD3 and ACPA ELISA and CIA, p=0.0016 for anti-PAD4). In the RA patients with erosion and treatment information available, anti-PAD4 antibody levels, but not ACPA, anti-CarP or anti-PAD3, were significantly higher in patients on biologic treatment vs. patients that were not on biologics (p=0.0017). Anti-PAD4 positive patients, were 10.1 [95% CI 2.5-52.0, p=0.0002] times more likely to be on biologic treatment vs. the negative group. Similarly, anti-PAD4 antibodies, but neither ACPA nor anti-CarP or anti-PAD3, were also significantly higher in patients with joint erosions (p=0.0354). All patients that were positive for anti-PAD4 antibodies (n=21) had erosive disease. Anti-PAD4 positive patients, were 20.2 [95% CI 1.1-363.2, p=0.0041] times more likely to have erosive disease.
Conclusion: Anti-PAD3, anti-PAD4 and ACPA are associated with disease onset at an early age. Anti-PAD4 are associated with erosive disease and biological treatment use in RA and represent a useful marker for better patient stratification.



Abstract THU0089 – Figure 1. Association of anti-PAD4 antibodies with joint erosion status (A) and to biological treatment use (B). Results are in Median Fluorescence Intensity (MFI). P-values of the Mann-Whitney analysis are shown in red. Dashed line indicates the preliminary cut-off of the assay. Number of positives and% within each subgroup are shown.

REFERENCE:

[1] Darrah, E., et al., *Erosive rheumatoid arthritis is associated with antibodies that activate PAD4 by increasing calcium sensitivity*. Sci Transl Med, 2013. 5(186): p. 186ra65.

Disclosure of Interests: Laura Martinez-Prat Employee of: Inova Diagnostics (Not pharmaceutical, diagnostics company), Victor Martinez-Taboada: None declared, Marcos Lopez-Hoyos Consultant for: Inova Diagnostics (Not pharmaceutical, diagnostics company), Michael Mahler Employee of: Inova Diagnostics (Not pharmaceutical, diagnostics company)
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THU0090 MORTALITY OVER UP TO 14 YEARS FOLLOW-UP IN MTX-REFRACTORY PATIENTS RANDOMIZED TO A STRATEGY STARTING WITH ADDITION OF INFLIXIMAB OR ADDITION OF SULFASALAZINE AND HYDROXYCHLOROQUINE

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Background: Longevity is the ultimate health outcome measure, incorporating treatment effectiveness as well as treatment safety. Randomized

Table 1. Prevalence of the assays in the different groups and in the entire cohort (percentage and number of individuals).

Assay/Group	PMR	HI	YORA	EORA	RA (YORA+EORA)	Total
% (N/total)	*49% (134/271)*	*8% (21/271)*	*23% (63/271)*	*20% (53/271)*	*43% (116/271)*	*100% (271/271)*
CCP3 ELISA	7% (9/134)	0% (0/21)	92% (58/63)	23% (12/53)	60% (70/116)	29% (79/271)
CCP3 CIA	7% (9/134)	0% (0/21)	95% (60/63)	25% (13/53)	63% (73/116)	30% (82/271)
CarP ELISA	41% (55/134)	14% (3/21)	49% (31/63)	62% (33/53)	55% (64/116)	45% (122/271)
PAD3 PMAT	1% (1/134)	5% (1/21)	16% (10/63)	0% (0/63)	9% (10/116)	4% (12/271)
PAD4 PMAT	10% (13/134)	14% (3/21)	38% (24/63)	13% (7/63)	27% (31/116)	17% (47/271)
PAD3+/4+ PMAT	1% (1/134)	0% (0/21)	16% (10/63)	0% (0/63)	9% (10/116)	4% (11/271)