A deposits were confirmed in serial sections by immunohistochemical and histochemical methods.

Results: **sAAa** complicated **RA** in **34 (21.12%)** of 161 patients; in **127 (78.88%)** of 161 patients amyloid A deposits were not found.

Amyloid A deposits were found in **29 (87.88%) kidneys** of 33 patients with **sAAa**; kidneys were negative for amyloid in **4 (12.12%)** of 33 cases (in 1 of 34 patients with **sAAa** tissue blocks of kidneys were not available).

Amyloid A deposits were found in **29 (87.88%) hearts** of 33 with **sAAa**; the heart was negative for amyloid in **4 (12.12%)** of 33 cases (the heart of one patient with **sAAa** was not available).

Renal amyloid A deposition led to death in **17 (50.0% of 34)** patients with **sAAa** due to massive amyloid A deposition in the kidneys, leading to renal insufficiency and uremia. Cardiac amyloid A deposition led to death in **3 (8.82% of 34)** patients with **sAAa** (and contributed to the lethal outcome in further 5). **Forteen (41.18% of 34)** patients with **sAAa** died of other causes such as peritonitis, lethal septic infection, etc.

sAAa was clinically diagnosed in **9 (26.47%)** and missed in **25 (73.52%)** of 34 patients, and only cases with massive renal amyloid A deposits were recognized. Cardiac **AAa** or its pathogenic role in mortality was not diagnosed.

Conclusion: **sAAa** is one of the main and the most insidious complications of **RA** affecting the kidneys and heart with high prevalence and severity. **sAAa** is related to the cardiovascular system, and **rAAa** or **cAAa** are associated with it. **sAAa**, **rAAa** and **cAAa** may developed in both sexes, and at any time in the course of the disease.

Systemic, renal and cardiac amyloid A deposition is a progressive and cumulative process, involving in its early stage only a few structures in some organs, and increasingly more in the later stages of the disease.

In **sAAa** the renal and cardiac amyloid A deposition starts after a latent stage. This latency may be caused by a not specified local protective mechanism, e.g. great excretion capacity of the kidneys, due to motility of the heart or oxygenisation etc.

Amyloid A deposition starts in the most frequently involved structures of the kidneys or heart with more massive deposits. The chronology of amyloid A deposition allows an indirect assessment of the stage of renal or cardiac amyloidosis, which may have a prognostic value in everyday surgical pathology.

Half of the patients with **sAAa** died of uremia caused by massive **rAAa** and only 9 of these were clinically recognized. Renal and cardiac amyloid A deposition should be considered a very serious, life-threatening complication of **RA**.

REFERENCES:

- [1] Arnett FC, et al: Arthritis Rheum, 1988; 31: 315-324. DOI: 10.1002/art.1780310302
- [2] Bély M, Makovitzky J: Acta Histochemica 108, 175-180 (2006). DOI: 10.1016/j.acthis.2006.03.017

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FRI0027

PROGNOSTIC MARKERS FOR PRECLINICAL CARDIOVASCULAR DISEASE IN RHEUMATOID ARTHRITIS AND CORRELATION WITH DISEASE ACTIVITY

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Background: Patients with rheumatoid arthritis (RA) have an elevated cardiovascular (CV) disease risk, explained both by an increased prevalence of traditional CV risk factors and the presence of chronic systemic inflammation that impairs vascular function, leads to thickening of the arterial wall and increased arterial stiffness.

Objectives: In this study we investigated the effect of anti-inflammatory treatment on prognostic markers for preclinical cardiovascular disease (arterial wall thickening and arterial stiffness) and the correlation of these markers with RA disease parameters.

Methods: Carotid ultrasound (using Artlab echotracking system) was used to determine carotid intima media thickness (IMT) and pulse wave analysis was done with SphygmoCor tonometry to calculate pulse wave velocity (PWV) and augmentation index (AIx). Paired t-test was used to compare PWV, AIx and IMT prior and after 6 months of therapy. Pearson correlation was calculated to investigate the correlation of PWV, AIx and IMT with (natural logarithm of) C-reactive protein (CRP), (natural logarithm of) erythrocyte sedimentation rate (ESR) and disease activity score-28 (DAS28). For correlations, data from both time points were pooled.

Results: In total 61 consecutive RA patients (50% early arthritis starting with csDMARD and 50% established RA starting with adalimumab) were asked to undergo arterial analysis just prior to start of therapy and after 6 months. PWV was performed in 45 patients at baseline and 39 at follow-up, IMT in 56 and 45 patients respectively and AIx in 51 and 44 patients respectively. Both signs of arterial stiffness (PWV and AIx) decreased after 6 months of therapy (mean difference 0.7 and 0.8 respectively; table 1), although this did not reach statistical significance. IMT remained stable during 6 months of therapy.

Table 1. Prognostic markers of atherosclerosis prior and after 6 months of anti-inflammatory therapy

	n	Baseline	6 months	Mean difference (95% CI)
PWV (m/s)	35	8.0	7.3	0.7 (-0.2;1.5)
AIx (%)	39	27.4	26.6	0.8 (-6.4;7.9)
IMT (mm)	43	0.68	0.68	-0.007 (-0.03;0.02)

PWV (n=84) showed a significant correlation with ESR (0.262, p<0.02) and DAS28 (0.269, p<0.02). Both AIx (n=95) and IMT (n=101) showed a significant correlation with CRP (-0.223, p<0.05 and 0.244, p<0.02, respectively). Other correlation coefficients were not statistically significant (data not shown, p>0.05).

Conclusion: Arterial stiffness as measured with PWV tended to decrease after 6 months of anti-inflammatory treatment. Arterial stiffness and arterial intima media thickness correlated with clinical disease parameters. Altogether, these changes might suggest that effective antirheumatic therapy has favorable cardiovascular effects. Whether or not this ultimately leads to a significant reduction of "hard" cardiovascular endpoints remains to be established in prospective studies.

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FRI0028

LOW SERUM IGF1 IS ASSOCIATED WITH AN INCREASED RISK AND HIGH PREVALENCE OF CARDIOVASCULAR EVENTS IN MIDDLE-AGED FEMALE PATIENTS WITH RA – A 5-YEAR FOLLOW-UP

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Background: Recent meta-analysis reported that rheumatoid arthritis (RA) is associated with high frequency of hypertension and stroke (1). IGF1 is an important angioprotector and its deficiency predisposes to development of ischemic stroke (2).

Objectives: Since levels of active IGF1 are affected by systemic inflammation, we analyze if low IGF1 is associated with increased cardiovascular disease (CVD) in women with RA.

Methods: The CVD risk was estimated (eCVR) in 184 female RA patients (median age 53 years, range 21-71) using the Framingham