10-27-2020

Cardiovascular disease risk assessment in patients with familial Mediterranean fever related renal amyloidosis.

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FRI0501

CARDIOVASCULAR DISEASE RISK ASSESSMENT IN PATIENTS WITH FAMILIAL MEDITERRANEAN FEVER RELATED AMYLOIDOSIS

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Background: FMF is an autosomal recessive disorder. Systemic inflammation in autoinflammatory disorders cause secondary systemic AA amyloidosis, which has been suggested as an important contributing factor to the excess cardiovascular disease (CVD) risk in patients with FMF.

Objectives: Our aim was to investigate the CVD-related clinical outcomes in patients with FMF-related amyloidosis and to define risk factors for CVD events (CVDEs).

Methods: A cross-sectional evaluation with prospective follow-up of consecutive patients with FMF-related amyloidosis or other non-diabetic primary glomerulonephropathy (PGN) was performed. Patients were followed for CVDEs. Flow-mediated dilatation (FMD), FGF-23 levels, serum lipid levels, hsCRP, BMI and homeostasis model assessment (HOMA) were assessed. A Cox regression analysis was performed to evaluate the probability of CVDEs associated with each risk factor.

Results: There were 107 patients in FMF-related amyloidosis group and 126 patients with PGN group. Forty-seven CVDEs were registered during the 4.2-years follow up; all 28 patients in the FMF-related amyloidosis versus 14/19 patients with PGN group who developed CVDEs before 40 years of age (P=0.002) (Figure 1). CVD mortality was 2.8 times higher (95% CI 1.02-7.76, p=0.03) in patients with FMF-related amyloidosis (n=12) than PGN (n=5). Mortality due to CVD was higher in patients less than 40 years old with amyloidosis than PGN (12/107 and 3/126 respectively, RR=4.71, 95% CI 1.36-16.25, p=0.006). Patients with CVDEs had higher levels of proteinuria, hsCRP and FGF23, and lower FMD compared to patients without CVDEs. Across both groups, FGF23 and FMD levels were independently associated with the risk of CVDEs (Table 1).

Conclusion: Patients with FMF-related amyloidosis are at increased risk of CVDEs with early mortality age. These patients should be closely monitored and if inflammation is poorly controlled with colchicine, biological agents must be added to treatment even if they develop amyloidosis. We also found that hsCRP, FGF 23 and FMD levels were the strongest predictors of CVD risk in patients with FMF. These biomarkers can stratify risk of early CVD in patients with FMF-related amyloidosis.

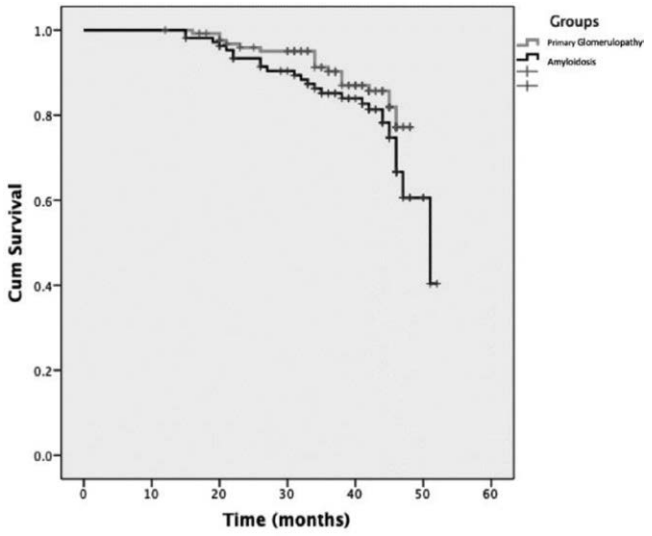

Figure 1. Comparison of cardiovascular disease survival between patients with FMF-related amyloidosis or primary glomerulopathy.

Table 1. Multivariate analysis of factors associated with the risk of suffering a cardiovascular event

		B	HR	95.0% CI for Exp(B)		p
	Variables			Lower	Upper	
All Groups	FGF23	.033	1.034	1.017	1.051	<.001
	FMD	-.946	.388	.262	.575	<.001
Primary glomerulopathy	FGF23	.050	1.051	1.019	1.084	.002
	FMD	-.651	.522	.300	.908	.021
Amyloidosis	FGF23	.034	1.035	1.012	1.058	.003
	FMD	-1.531	.216	.109	.430	<.001
	hsCRP	-.040	.961	.915	1.009	.108

FMD, Flow-mediated dilatation; hsCRP, high sensitivity C reactive protein; CI, Confidence interval

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.3369

FRI0502

SEASONAL CLUSTERING OF ACUTE SARCOIDOSIS IN GERMANY AND ASSOCIATIONS WITH AIR POLLUTION

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Background: Sarcoidosis is a multisystemic granulomatous disorder of unknown origin. The central role of macrophages and granuloma formation, the predominant involvement of lung and skin, and certain risk populations (e.g. firefighters[1, 2]) might be explained by causative airborne antigen(s)[3]. Whether air pollution is involved in pathogenesis and seasonal clustering of sarcoidosis is uncertain.

Objectives: This study has been set to analyze seasonal clustering of acute sarcoidosis and associations to air pollution.

Methods: Patients with acute sarcoidosis, defined by bihilar lymphadenopathy, ankle swelling, and/or erythema nodosum plus physician's diagnosis,were included in this retrospective study. Disease onset (seasonal clustering) and associations to air pollution (particulate matter (PM_{10}) and nitrogen dixoide (NO_2)) were analyzed. Google Trends queries were conducted to address seasonal clustering on a global scale.

Results: A total of 185 patients with acute sarcoidosis were included; 48.7 % of the enrolled patients were female and Löfgren triad was complete in 73.5 % of patients. Acute sarcoidosis clustered from December to June in West Germany ($p<0.005$, Kendall τ=-0.68), peaking in January (17.8 % of cases) and in the first third of the year (54.5 %). Mean PM_{10} values clustered from December to April with values between 15 and 40 µg/m^3. NO_2 levels were measured highest from November to March (45 µg/m^3) and lowest between April and August (25 µg/m^3). Elevated air pollution markers (PM_{10} and NO_2) were associated with higher monthly incidence rates of acute sarcoidosis (Cross correlation coefficient ranging between 0.7 -0.8). Google Trends analysis yielded seasonal clustering ($p<0.005$, Kendall τ = -0.64) in winter and spring months on the northern hemisphere.

Conclusion: In Central Europe acute sarcoidosis peaks in winter and spring months (December until March) shortly after PM_{10} and NO_2 maxima are reached. Whether components of particulate matter might be involved in the pathogenesis of sarcoidosis has to be elucidated by further studies.

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Disclosure of Interests: Philipp Rustler: None declared, Dirk Schindler: None declared, Reinhard Voll: None declared, Florian Kollert Employee of: Novartis

DOI: 10.1136/annrheumdis-2020-eular.4609

FRI0503

VALIDATION OF THE 2019 ACR/EULAR CLASSIFICATION CRITERIA FOR IGG4-RELATED DISEASE IN A JAPANESE KIDNEY DISEASE COHORT: A MULTI-CENTER RETROSPECTIVE STUDY BY THE IGG4-RELATED KIDNEY DISEASE (IGG4-RKD) WORKING GROUP OF THE JAPANESE SOCIETY OF NEPHROLOGY

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