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Silica binds to LL-37 and CpG DNA complexes
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Introduction.— Exposure to silica has been implicated in a number of inflammatory conditions affecting the respiratory system including the development of ANCA associated vasculitis. However, the exact mechanism behind the immunostimulatory properties of Silica is not totally understood. It is known that in the presence of highly cationic molecules, silica is capable of binding DNA oligonucleotides. Given that activated neutrophils are capable of generating the cationic peptide LL-37, which can complex with DNA, we wondered if these complexes could bind to silica.

Methods.— The effect of silica on immune cells was studied using Whole Blood and/or isolated PBMC cultured in the presence of silica particles (50 μg mL⁻¹) of 10–20 nm (Sigma Aldrich), previously treated with different combinations of LL-37 (4 μg mL⁻¹) and CpG-FITC (1.6 μg mL⁻¹) i.e. alone or forming LL-37-CpGB-FITC complexes. The expression of activation markers were measured by flow cytometry and gene expression by RT-PCR. Silica particle-CpG-FITC complex were visualized study by confocal microscopy.

Results.— We found that immunostimulatory CpG oligonucleotides alone do not bind silica, but LL37-CpGB complexes do. Furthermore we show that LL37 alone binds to silica particles, resulting in a LL37-Silica complex that is capable of binding CpG oligonucleotides. While silica particles are normally endocytosed by phagocytic cells, we found that silica coated with CpGB complexes are recognized in addition by B cells, leading to an increase in their expression of MHC-Class II and co-stimulatory molecules CD40 and CD86. We also found that silica can also induce de novo synthesis of ANCA antigens such as PR3 and MPO in PBMCs and therefore our results suggest that exposure to silica particles during a bacterial infection could potentially contribute to an overall amplification of the inflammatory response and production of ANCA autoantibodies.

http://dx.doi.org/10.1016/j.lpm.2013.02.210

P141
Aneurysms in the view of rheumatology perspective
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Introduction.—An aneurysm is an abnormal widening or ballooning of a portion of an artery due to weakness in the wall of the blood vessel. The aneurysms might a presenting finding or occur during the course of a disease. Although it is not clearly what causes aneurysms, in case of rheumatic symptoms and signs, patients should be evaluated regarding Behçet’s disease (BD) and large vessel vasculitis etc.

This study is aimed to investigate the rheumatologic diagnosis and vessel involvements of the patients consulted to rheumatology department with probable diagnosis of aneurysms.

Methods.—Database of our university hospital between 2000–2012 was used for this study. The patients had been consulted to rheumatology department with a probable diagnosis of aneurysm regarding rheumatic disease were evaluated.

Results.—Totally 651 patients were included to this study. In 128 (19.7%) of the patients, a rheumatic diagnosis was found and an aneurysm was found in 56 (43.8%) of them. The most frequent rheumatic diseases were BD (n = 27), Takayasu arteritis (n = 10), polyarteritis nodosa (PAN) (n = 4) and giant cell arteritis (n = 2). Regarding these, 43 patients distribution of the vessel involvements were arcus aorta and branches 27.9%, pulmonary artery 18.6%, abdominal aorta, 27.9%, cerebral artery 11.6%, peripheral artery 9.3%, renal and/or hepatic and/or splenic artery 9.3%. Fourteen patients had other rheumatic diseases (six SLE, four RA). There were four RA patients with aneurisms and one patient uncontrolled hypertension was accepted as the cause of aneurism. In 2 SLE patients with infective endocarditis, mycotic aneurisms were found.

Discussion.—This study highlights the presence of aneurysms in inflammatory rheumatic diseases and emphasizes the Behçet’s disease, large vessel vasculitis and PAN as a cause in Turkish population. It should be kept in mind than aneurysms might occur during other rheumatic diseases such as RA and SLE because of hypertension and infectious complications.

http://dx.doi.org/10.1016/j.lpm.2013.02.212

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IgA associated vasculitis (IgAV) – a 5-year retrospective study
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Introduction.—To review the clinical presentation, potential precipitating factors and outcome of patients with leukocytoclastic vasculitis (LCV) and IgA deposition (IGAV).

Methods.—Retrospective search of all cases of LCV diagnosed by skin biopsy in 2007–2012. Of 213 cases, 100 had direct immunofluorescence (DIF), 32% being positive for IgA. We reviewed the charts of all 32 patients and recorded demographics, clinical and laboratory data, duration of follow-up, treatment and outcome.

Results.—Of the 32 patients with IgAV: 91% were white, 60.6%-male, all but one patient (aged 16) were adults, median age 57 (16–76). On DIF 59% had IgA deposition alone, with IgM 25%, with IgG 6%, all three 9% in various combinations with complement and fibrinogen. With one exception, all patients had vascular or perivascular IgA; one patient with dermoepithelial IgA, M and G deposition was later diagnosed of systemic lupus erythematosus. Clinical presentation: 16% purpura, 35.5% purpura and arthritis, 29.5% combinations of purpura, arthritis, renal and gastrointestinal (GI) manifestations. Renal involvement was noted in 35% of IgA only and 41.6% of IgA + IgM patients. In the month prior to diagnosis, a bacterial/viral infection was reported in 61%, 48% received antibiotic therapy, a specific organism being identified in 25.8%. Serum IgA was elevated in 45% of 11 patients, cryoglobulins in 42% of 19 patients, median 87 (54–642). Median follow up was 22 (0–66) months, 29% received no treatment, 71% glucocorticoid taper – other drugs. Outcome: 68% resolved, 16% persistent course, 9.7% unknown, 3% end stage renal disease secondary to IgAV, 3% died due to IgAV related GI complications.