No recurrence of vasculitis was detected within 7 months after correction of therapy.

**PO.3.72** EXTRACELLULAR VESICLES OPSONIZED BY MONOMERIC C-REACTIVE PROTEIN ARE ACCESSIBLE AS AUTOANTIGENS IN SYSTEMIC LUPUS ERYTHEMATOSUS

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**Purpose** Under certain conditions, the pentameric (p) structure of C-reactive protein (CRP) can dissociate into the more proinflammatory isoform monomeric (m)CRP. Autoantibodies against mCRP have been reported by us and others in systemic lupus erythematosus (SLE), and their levels appear to associate with renal involvement and increased disease activity. The origin of this autoactivity thus calls for further investigation. Extracellular vesicles (EVs) have been proposed as important mediators of lupus pathogenesis by exposing nuclear antigens on their surface, thereby serving as adjuvant for autoantibody generation and subsequent immune complex-formation. Herein, we investigated pCRP and mCRP on EVs in plasma from patients with SLE and potential associations with manifestations, disease activity and organ damage.

**Methods** A flow cytometry protocol was established to detect pCRP and mCRP on EVs in 67 well-characterized patients from a regional Swedish lupus registry, and 60 age- and sex-matched controls. Other proteins, such as surface-bound complement protein (C)3, 4, and 4d, were also measured. Clinical data was available for the patients and plasma levels of C3 and C4 were measured by nephelometry. SLE disease activity was assessed by SLEDAI-2K and organ damage evaluated by SLICC/ACR damage index (SDI).

**Results** The levels of mCRP and pCRP on EVs were higher in patients than in controls (median with (interquartile range): 6.6×10⁻⁴ (3.4×10⁻⁴ - 1.2×10⁻³) vs 9.3×10⁻⁵ (6.8×10⁻⁵ - 4.7×10⁻⁴) for mCRP, and 5.7×10⁻⁴ (3.5×10⁻⁴ - 1.1×10⁻³) vs 1.1×10⁻⁴ (6.0×10⁻⁵ - 4.1×10⁻⁴) for pCRP, respectively; p<0.001). mCRP was more abundant on EVs in patients with active SLE (SLEDAI-2K > 5) compared to those with quiescent disease (p<0.01). Furthermore, mCRP surface levels correlated weakly with SLEDAI-2K (rho = 0.25, p<0.05), and even stronger with modified SLEDAI-2K (rho = 0.41, p<0.001), but levels were significantly lower in patients with established organ damage. EV-bound mCRP correlated with SDI (rho = -0.30, p<0.05), a correlation which was stronger among patients with lupus nephritis (rho = -0.61, p<0.01). Furthermore, soluble plasma complement protein 4 (C4) correlated significantly with C4d on microparticles (rho = 0.27, p<0.05), particularly in those with active SLE (rho = 0.73, p<0.05).

**Conclusions** Our results suggest that EV-bound CRP, especially mCRP, could indeed be of relevance for disease progression, and that opsonized EVs might provide a potential autoantigen source.