Complement and other innate protective systems against infectious and autoimmunity diseases.

**Methods** Components of the patient serum complement (CPSC) were registered by immunochemical methods in microplates (variants of functional analyses of isotypes C4A and C4B, and C1-inhibitor upon supramolecular assembling on well bottom) and on the blot (preliminary isoelectrophoresis of sera in the plate of polyacrylamide gel). Rabbit and goat polyclonal antibodies against purified CPSC were used. Activity of antibodies-peroxidase conjugates bound to CPSC was detected in the presence of TMB (microplate) or chemiluminescent substrate in a real time [BioChemi System (UVP)].

**Results** 1. Sera of patients having autoimmune diseases were characterised on the blot by appearance of aggregated C4B and C4A within pI 4.0–4.7 compared to less acidic free isotypes. Functional status of isotypes was confirmed in microplate. Absolute amounts of isotypes and their subisotypes as well as ratio of isotypes characterised prognostic-diagnostic patient groups of diseases (SLE, antiphospholipid syndrome, rheumatoid arthritis). Appearance and relative intensities of the system of aggregated isotypes and subisotypes of C4 indicated the presence of disease, its initiation, reached phase of disease and disease character. 2. Similar localization on the blot for the complex C4B and C1-inhibitor of patients was registered.

**Conclusions** Results indicate possible cofunctioning C4B and C1-inhibitor in protection complement network upon development of autoimmune diseases. New mechanisms of cascade protection involving new combinations of CPSC may be revealed. Results open new practical possibilities in diagnostics of early, progressive and chronic autoimmune diseases.

**Abstracts**

**343** COMPLEMENT LECTIN SYSTEM COFUNCTIONS TO OTHER PROTECTIVE PRO-TEIN SYSTEMS INVOLVING RELATIONSHIPS BETWEEN LECTINS AND GLYCOCONJUGATES AGAINST AUTOIMMUNE AND INFECTIOUS DISEASES

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**Background and aims** Innate protection recognising systems of human organism are important and respective in respect of investigation autoimmune and infectious diseases. The aim was to evaluate lectin system (LS) of complement and its importance for innate interacite against infectious and autoimmune diseases.

**Methods** Patient complement components (PCC) of sera were estimated by immunochemical methods in microplates (hybrid plate for C4A and C4B functionality testing) and on the blot (for PCC separated by isoelectrophoresis). Peroxidase activity was detected using TMB or chemiluminescent substrate (for blot, BioChemi System, UVP).

**Results** Additional glycoconjugates(GC)-binding PCC were registered. C1-inh revealed affinity to heparin. Patient (SLE, antiphospholipid syndrome, rheumatoid arthritis) subisotypes of C4B (up to 5) and C4A (up to 7) were observed as aggregated forms together with GC.

**Conclusions** 1. Extended complement LS includes MBL, Factor H, C1-inh, CR1, CR2, CR3, C3, C4B, others. 2. Complement serve as a universal communicator among protective systems involving their LS—GC communications. 3. Complement (as mostly advanced innate protection system) possesses structure-function principles prognostic for any innate recognition systems. 4. There is superLS network in organism. Probiotic LS is important cofunctioning part of it. 5. The data support idea that any protection protein system partially functions involving LS—GC recognition (also for antibodies recognised by Fc-receptors as LS). 6. New prognostic-diagnostic possibilities in investigation of autoimmune and infectious diseases are opened using interactome LS—GC network.