laboratories, whereas 5/38 reported homogenous ANA, one reported unknown pattern. Except for 4 out of 24 laboratories reporting anti-histone and 2 out of 33 laboratories reporting ACPA, both in low levels, no autoantibodies were reported. Consensus was that the sample contained pure anti-DFS70.

Conclusions ECFSG helps to keep awareness on differences between autoantibody assays. The anti-DFS70 ANA pattern was identified by most laboratories in a reagent that proved to be free of other autoantibodies. The anti-DFS70 standard will be available via <http://asc.dental.ufl.edu/ReferenceSera.html#text>.

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P041

IMMUNOLOGICAL CHARACTERISTICS AND DISTRIBUTION OF CRYOGLOBULINS IN A COHORT OF 13000 PATIENTS OVER 6 YEARS

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Career situation of first and presenting author Assistant.

Introduction Cryoglobulins (CG) are immunoglobulins (Ig) that precipitate *in vitro* at cold temperature and dissolve at 37°C, they are classified in 3 types. Type I CG are monoclonal Ig of IgM or IgG isotype. Type II and III are mixed CG: type II CG associate a monoclonal with polyclonal Ig, type III CG associate polyclonal Ig. Rheumatoid factor activity (RF) of mixed CG leads to the formation of immune complexes that can precipitate and result in vasculitis.

Objectives The purpose of this study was to update information on CG biological characteristics in a large population recruited from all clinical departments of a French University Hospital.

Methods This retrospective study was conducted from January 2010 to December 2016. Patients included had at least one serum sample for CG detection and characterization: CG isotype and clonality, concentration and RF (IgM anti-IgG) in the cryoprecipitate; and serum complement exploration. Associated pathologies were determined by biological markers of gammopathy, viral infection and autoimmunity.

Results A total of 13439 patients were included, 1675 (12.5%) of whom had positive CG. In case of negative CG detection, 2213 patients were retested and CG was detected on the new sample for 196/2213 patients (8.9%). Type I CG was found in 9.3% (155/1675), type II CG in 47% (788/

1675), and type III CG in 43.7% (732/1675) of patients. In type I CG, IgM CG was more frequent than IgG CG, but in lower concentration ($p=0.02$). For mixed CG, 34.8% of HCV + tested patients had CG, less than 5% of CG was associated with HBV+ or HIV+ serology. Mixed CG were found in 25.4% of patients with anti dsDNA, anti-SSA60 or anti-CCP autoantibodies (Ab). Mixed CG were positive for 87/333 (26.1%) patients with anti-dsDNA Ab, 74/447 (16.6%) patients with anti-SSA60 Ab, and for 19/155 (12.3%) patients with anti-CCP Ab. Both the cryoprecipitate and the serum were positive for RF in 21.6% of type II CG and 10.1% of type III CG. C3, C4 and/or CH50 decrease was found in 23.6% of serum with CG vs 3.2% of CG-negative serum ($p<0.001$).

Conclusions In this largest cohort even studied, with patients from all clinical specialties, CG distribution and characteristics were described with minimal selection bias. Despite strict pre-analytical conditions, negative CG detection must be repeated according to clinical context. Mixed CG are more frequently detected in patients positive for HCV or anti-dsDNA Ab. CG with RF activity form immune complexes that precipitate in vessels and activate complement system, responsible for cryoglobulinemic vasculitis.

Disclosure of Interest None declared.

P042/O05

MOLECULAR MIMICRY AND AUTOIMMUNITY: ANTI-P. GINGIVALIS ANTIBODY RESPONSE IN ACPA-POSITIVE RHEUMATOID ARTHRITIS

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Introduction The presence of anti-citrullinated protein antibodies (ACPAs) is a hallmark of rheumatoid arthritis (RA). ACPAs specifically recognize citrullinated epitopes, a result of a post-translational modification catalyzed by peptidyl arginine deiminases (PAD). Based on the unique feature of the periodontal bacteria *Porphyromonas gingivalis* (*Pgingivalis*) to express P. PAD it has been suggested that ACPA-positive RA may be precipitated in the gum mucosa.

Objectives To address this hypothesis our aims were to investigate the antibody response against a citrullinated P. PAD peptide (CPP3) in patients with RA, chronic periodontitis (PD) and in controls. In addition, we generated monoclonal antibodies (mAbs) from gingival tissue B cells of RA patient aiming to investigate whether citrulline-specific B cells may reside in the gingiva.

Methods Gingival tissue-derived single CD19+ B cells from an ACPA-positive RA patient with PD were sorted by flow cytometry. Immunoglobulin variable region genes were sequenced and expressed to generate recombinant mAbs. CPP3-reactivity was analysed by ELISA in serum samples from 66 PD patients, 63 periodontally healthy controls (non-PD), 200 RA patients, and 120 non-RA controls, as well as in 55 mAbs. Differences in antibody levels were examined using Mann-Whitney U test for independent groups.

Results Anti-CPP3 antibody levels were low in non-PD controls, while 65% of PD patients showed elevated levels ($p<0.0001$). Significantly increased antibody levels were also