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Introduction. This study describes characteristics and outcomes of AAV patients included in a nationwide initiative collecting clinical and laboratory data on AAV since 2009.

Methods. Sixteen vasculitis centres (9x Nephrology, 4x Rheumatology, 2x Immunology, 1x Pediatrics) have participated in web-based data collection, consisting of retrospective data supplied at entry and prospective follow-up with a visit recorded every 3–6 months. Statistical analysis included the Kaplan-Meier method and log-rank test for survival analysis.

Results. A total of 569 patients (M/F 276/293, median age at diagnosis 58, range 12–88 years) were enrolled, 311 (55%) c/PR3-ANCA positive, 226 p/MPO-ANCA (40%) and 16 (3%) ANCA-negative. The mean time from diagnosis was 67 months (range 0–463). GPA was the most common diagnosis with 59%, followed by MPA (including renal-limited form) in 35% and CSS in 4%. Cumulative organ involvement included kidney in 89% (confirmed with renal biopsy in 75% of them), lungs in 61% and ENF in 39%. The estimated 5-year survival was higher in patients aged ≤ 65 years than in the older ones (85.3% vs. 67.2%, P < 0.001), in c/PR3-ANCA positive patients compared to p/MPO-ANCA (85.7% vs. 72.5%, P = 0.002) and in patients without severe renal vasculitis at diagnosis compared to those with a creatinine ≥ 500 μmol/L (86.5% vs. 66.8%, P < 0.001). Last available Vasculitis Damage Index (VDI) ranged between 0 and 16 (median 4). c/PR3-ANCA positive patients were diagnosed younger (mean 52 vs. 60 years, P < 0.01), with better creatinine levels (mean 183 vs 257 μmol/L, P < 0.01) and suffered from more relapses during follow-up (1.23 vs. 0.7/person, 47% vs. 34% with a relapse, P < 0.01) compared to p/MPO-ANCA positive.

Conclusion. In the Czech population, GPA is the most common AAV, reflecting the northern European type. Older age and severe renal involvement are associated with higher mortality. Long-term survival is associated with relatively frequent relapses and significant morbidity in a number of patients.

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A34 Infection risk in ANCA-associated vasculitis

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Introduction. Infection is a frequent complication in anti-neutrophil cytoplasm antibody-associated vasculitis and is associated with increased morbidity and mortality. We investigated infection rates, infection risk factors and vaccine responses in a cohort of patients under long-term follow.

Patients. Clinical data was collected retrospectively from patient records. Patients received predn 7, Men A,C,W135,Y and meningococci vaccines. Functional antibody titres were measured at baseline, 4 and 16 weeks and 2 years; anti-pneumococcal antibody (anti-PN) opsonophagocytic assay (OPA) was done at 16 weeks. All participants gave informed consent.

Results. In 89 patients with median 5 (2–22) years follow-up overall rates were 1.5 infections/year and 0.9 infections requiring hospital admission/year. Serum immunoglobulin G (IgG) < 5 g/L was associated with infection. Ninety-two patients in established remission received vaccination with 16 weeks follow-up. Sixty-four patients were followed for 2 years. IgG < 6 g/L at vaccination was associated with low baseline anti-pneumococcal antibodies (anti-PN), CD19 B cell counts and CD4 T cell counts, increased age and continued immunosuppression. Functional antibody titres improved significantly from baseline following vaccination in most patients. Factors associated with poor responses (antibody titre post-vaccination < 0.35 u/mL for pneumococcus, < 0.1 u/mL for meningococcus and haemophilus) were baseline IgG < 6 g/L (P = 0.017) and continued immunosuppression. Patients who achieved anti-PN titres > 0.35 by 16 weeks generally persisted at 2 years (57–100% of patients). OPA showed a significant positive correlation with most anti-PN antibody titres tested. No increase in relapse was seen post-vaccination.

Discussion. Patients with secondary immunodeficiency are at high-risk of infection and do not mount adequate vaccine responses. Strategies

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A33 Premature ovarian failure in women with ANCA-associated vasculitis

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Introduction. One of the serious side-effects of cyclophosphamide (CYC) is premature ovarian failure (POF). Data are scarce on the incidence of POF in women diagnosed with AAV treated with orally administered CYC.

Methods. We retrospectively studied the incidence of POF in all women diagnosed with active AAV before the age of 40 in our centre between 1980 and 2011. POF was defined as loss of ovarian function before the age of 40 years. This was retrospectively diagnosed as the time of the last menstruation followed by one year of amenorrhea.

Results. Forty-nine women aged under 40 years at diagnosis were identified. Twenty-seven patients were treated with CYC and 22 patients were treated with other immunosuppressive medication (n = 16) or co-trimoxazole. Age at diagnosis in CYC treated patients was 28 years (SD 8) and in patients not treated with CYC 27 years (SD 6). None of the 22 patients treated with other (immunosuppressive) medication developed POF; however ten patients are still at risk. POF developed in 14 CYC treated patients, five did not develop POF and eight women are still at risk (< 40 years). POF developed after a median period of 65 (IQR 7.8–89) months after the start of CYC. The mean age at POF was 36.3 years (SD 4.1). The median cumulative CYC dose in patients before the development of POF was 28.7 g (IQR 17.4–55.1) (n = 14) and at the age of 40 years in patients without POF, this was 14.5 (IQR 8.6–46.6) (n = 5), this was not statistically significant. Two of 14 patients who eventually developed POF had three children after start of CYC and one of five patients who did not develop POF after treatment with CYC had six children after start of CYC. Two of 12 patients not treated with CYC had four children after start of therapy. Five of the 14 patients were involuntary childless due to the development of POF.

Conclusion. CYC frequently develops after oral cyclophosphamide therapy in young women with AAV. This study emphasizes the importance of development and use of alternative therapies in this group of patients.

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to improve protection against infection and vaccine responses need to be investigated.

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A35

A risk score for predicting short-term incidence of death or relapse in anti-neutrophil cytoplasmic antibody-associated vasculitis
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Introduction.— Anti-neutrophil cytoplasmic antibody (ANCA)-associated vasculitis (AAV), combining granulomatosis with polyangiitis (GPA) and microscopic polyangiitis (MPA), is associated with a substantial short-term risk of relapse or death, but the factors determining short-term outcome are not well known. We aimed to develop a risk score to predict the 1-year risk of death or relapse in newly diagnosed AAV.

Methods.— We studied patients with incident AAV enrolled in 4 international, randomized, multicenter clinical trial. A set of 22 candidate variables, all assessed at diagnosis, were considered for predicting 1-year survival or relapse risk. A stepwise approach using uni- and multivariate logistic regression models in 2000 bootstrap samples were used to identify predictors of death or relapse at 1 year. The regression coefficients computed in the final model were used to derive weights used to identify predictors of death or relapse at 1 year. The regression coefficients computed in the final model were used to derive weights for the identified predictors. The discriminative ability of the score was evaluated by analysis of the area under the receiver operating characteristic curve (AUC).

Results.— Among the 535 subjects, we had complete data for all 22 analyzed variables for 441 subjects. At 1-year follow-up, we recorded 44 deaths and 12 relapses. We retained 9 variables for the final risk score model: age > 60 yr (weight of 1); female sex (1); ear, nose and throat involvement (1); creatininemia > 300 μmol/L (3); PR3-ANCA (1) MPO-ANCA (3); peripheral neutrophil count > 7000/mm³ (2); hemoglobin level < 10 g/dL (1) and C-reactive protein level > 10 mg/L (2). Each patient was assigned a risk score between 0 and 15. Accordingly, the 1-year risk for death or relapse was low (< 5%) for 32% of patients, medium (5–20%) for 50%, and high (> 20%) for 18%. The AUC for the prediction model was 0.79 (95% confidence interval 0.73–0.85).

Conclusion.— This integrative AAV-risk prediction score may be useful in predicting a patient’s risk of death or relapse on short-term follow-up and may contribute to better risk-stratified characterization and management of AAV.

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A36

Eosinophilic granulomatosis with polyangiitis (Churg–Strauss) (EGPA), polyarteritis nodosa (PAN) and microscopic polyangiitis (MPA) with no initial Five-Factor Score-defined poor-prognosis factors (FFS = 0): Baseline factors associated with cytotoxic agent and immunomodulator prescription
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Introduction.— Patients with FFS = 0 EGPA, PAN or MPA [1] included in two prospective CHUSPAN trials, initially received corticosteroids (CS) alone [2,3]. Because some patients need add-on therapies (AT), baseline characteristics associated with their use were sought.

Patients.— Patients’ data were updated in 2012. Chapel Hill definitions classified EGPA, PAN and MPA [4]. Analyzed AT were all cytotoxic agents (CA), biologics (except omalizumab), IVIg (> 2 g/kg) and plasma-exchange (PE). Univariate and multivariate analyses were performed.

Results.— The study included 193 patients (75 EGPA, 61 MPA and 57 PAN). Mean ± SD overall follow-up was 97.6 ± 39.6 months, with no difference among entities. All initially received CS alone; among 86/193 (24 PAN, 32 MPA and 30 EGPA) requiring AT (mean follow-up since CS onset: 23.3 ± 34.1 months) because CS failed (37%), relapse (52%) or CS dependency (10%), 49 received IV cyclophosphamide (CYC), 13 oral CYC, 56 azathioprine, 15 methotrexate, nine mycophenolate mofetil, seven IVlg, six PE, one infliximab and one cyclosporine. Multivariate analysis retained only baseline mononeuritis multiplex (MM) (HR = 1.81 [1.12–2.93], P = 0.02) as independently associated with AT use. AT prescription rates were comparable for the three entities. At last visit, 165/193 (85%) were alive, with 94 (57%) and 28 (17%), respectively, still on CS and/or CA or biotherapy. Overall survival (OS) was comparable for patients taking only CS vs. the others. However, patients given ≥ 1 vs. 0 AT had significantly higher Vasculitis Damage Indexes: 2.93 ± 2.09 vs. 1.96 ± 1.40 (P < 0.001), reflecting more frequent osteoporosis (33 vs. 18%, P = 0.013) or peripheral neuropathy (60 vs. 38%, P = 0.004). Conclusion.— Despite the good OS of baseline-FFS = 0 EGPA, PAN or MPA patients, 45% required AT, mostly those with MM whose OS was similar to that of the other FFS0 patients. This MM subpopulation might be more likely to fail on CS alone, thereby supporting prospective evaluation of their initial CA use.

References

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