**Supplementary Table S5.** Characteristics of patients either receiving trimethoprim-sulfamethoxazole or no prophylaxis are highlighted. Metric variables are shown as median and (minimum – maximum), nominal variables are shown as %. Statistics tests are Chi quadrate test / Fisher’s exact test and Mann-Whitney U –Test where appropriate. The respective reference ranges, if applicable, are given in parenthesis. Abbreviations used: ALM (alemtuzumab), ANCA (anti-neutrophil cytoplasm antibody), AZA (azathioprine), BVAS (Birmingham Vasculitis Activity Score), CD (cluster of differentiation), CNS (central nervous system), COPD (chronic obstructive pulmonary disease), CRP (C-reactive protein), CYC (cyclophosphamide), DEI (Disease Extent Index), EGPA (eosinophilic granulomatosis with polyangiitis), ENT (ear, nose and throat), ESR (erythrocyte sedimentation rate), GPA (granulomatosis with polyangiitis), Ig (immunoglobulin), IVIG (intravenous immunoglobulins), LVEF (left ventricular ejection fraction), MMF (mycophenolate mofetil), MPA (microscopic polyangiitis), MTX (methotrexate) PLEX (plasma exchange), RTX (rituximab), TNF (tumour necrosis factor), WBC (white blood count).

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|  | **No TMP-SMX** **(n=119)** | **TMP-SMX** **(n=73)** | **p-value** |
| ***Demographics***Age (years)Gender (male, %) | 58 (16-85)33 | 56 (21-81)63 | 0.446**<0.001** |
| ***Type of vasculitis* (%)**GPAMPAEGPA | 612019 |  85510 | **0.001** |
| ***Symptoms (%)***B-symptoms (night sweat, fever, unintentional weight loss)NeuropathySinusitisDeafness/Mastoiditis/Otitis mediaArthralgia | 4831612244 | 1218774040 | 0.060**0.042****0.028****0.008**0.589 |
| ***Organ involvement (%)***CNSSubglottic/Tracheal stenosisSkinKidneyEyeOthersENTLung | 6121845238760 | 81415473058652 | 0.7590.6940.5420.8720.2920.769**0.003**0.302 |
| ***Imaging findings (%)***Pulmonary cavitiesEndobronchial Severe bronchiectasis | 24233 | 24292 | 0.9740.3800.646 |
| ***Disease Activity Measures***BVASDEI | 6 (0-17)6 (2-10) | 8 (0-28)6 (2-12) | 0.0930.610 |
| ***Laboratory values***Creatinine (µmol/l)eGFR (MDRD equation) ml/min/1.73 m2CRP (0-6 mg/l)ESR (5-15 in the 1st hour)Neutrophils (2-8 x 109/l)WBC (4-11 x 109/l)Lymphocytes (1-4.5 x 109/l)CD19 (0.1-0.5)CD3 (0.7-2.1)CD4 (0.3-1.4)CD8 (0.2-0.9)CD56 (0.12-0.88)IgG (6-13 g/l)IgG decline ≥ 30% (%)Hypogammaglobulinemia (%)IgM (0.4-2.2 g/l)IgA (0.8-3.7 g/l)AB (%) | 87 (45-879)71 (5-155)8.0 (0.7-180.0)17 (2-112)7.2 (2.0-18.6)9.5 (4.1-42.0)1.1 (0.1-4.5)0.04 (0.00-0.77)0.84 (0.05-3.32)0.54 (0.03-2.80)0.26 (0.02-1.93)0.13 (0.00-0.80)9.2 (4.2-18.9)19110.7 (0.3-2.6)1.9 (0.4-5.3)75 | 95 (53-1451)70 (3-163)5.0 (1.0-215.0)17 (1-116)8.3 (2.6-21.4)10.3 (3.3-24.4.)1.1 (0.1-2.9)0.02 (0.00-0.80)0.73 (0.14-7.20)0.37 (0.05-1.98)0.23 (0.03-1.04)0.11 (0.01-0.65)8.6 (2.8-22.6)32190.6 (0.3-2.4)1.7 (0.5-4.4)71 | 0.1470.5280.3660.9080.3390.8210.2710.2520.117**0.022**0.3550.7310.2910.0550.185**0.015**0.6800.588 |
| ***Co-morbidities (%)***COPDDiabetesHypertensionMyocardial infarction / Reduced LVEF | 393410 | 1104011 | 0.5820.9510.4150.863 |
| ***Indication (%)***Minor relapseMajor relapseMaintenanceRefractory diseaseSteroid sparing1st line | 41298127196 | 33327736167 | 0.2500.7590.5120.2010.6150.769 |
| ***Pre-medication (last 12 months)***CYC (g)MMF (g)AZA (g)MTX (mg)IVIG (ever) (%)antiTNF (ever) (%)PLEX (ever) (%)ALM (ever) (%) | 0 (0-45)0 (0-1080)0 (0-72)0 (0-1286)7366 | 2 (0-22)8 (0-1080)0 (0-81)0 (0-1029)55139 | **<0.001**0.4050.986**0.043**0.7410.6810.1580.542 |
| ***Medication used concurrently with RTX***Steroids (mg)Other AB prophylaxis (%) | 11 (0-60)14 | 18 (4-60)7 | **0.005**0.144 |