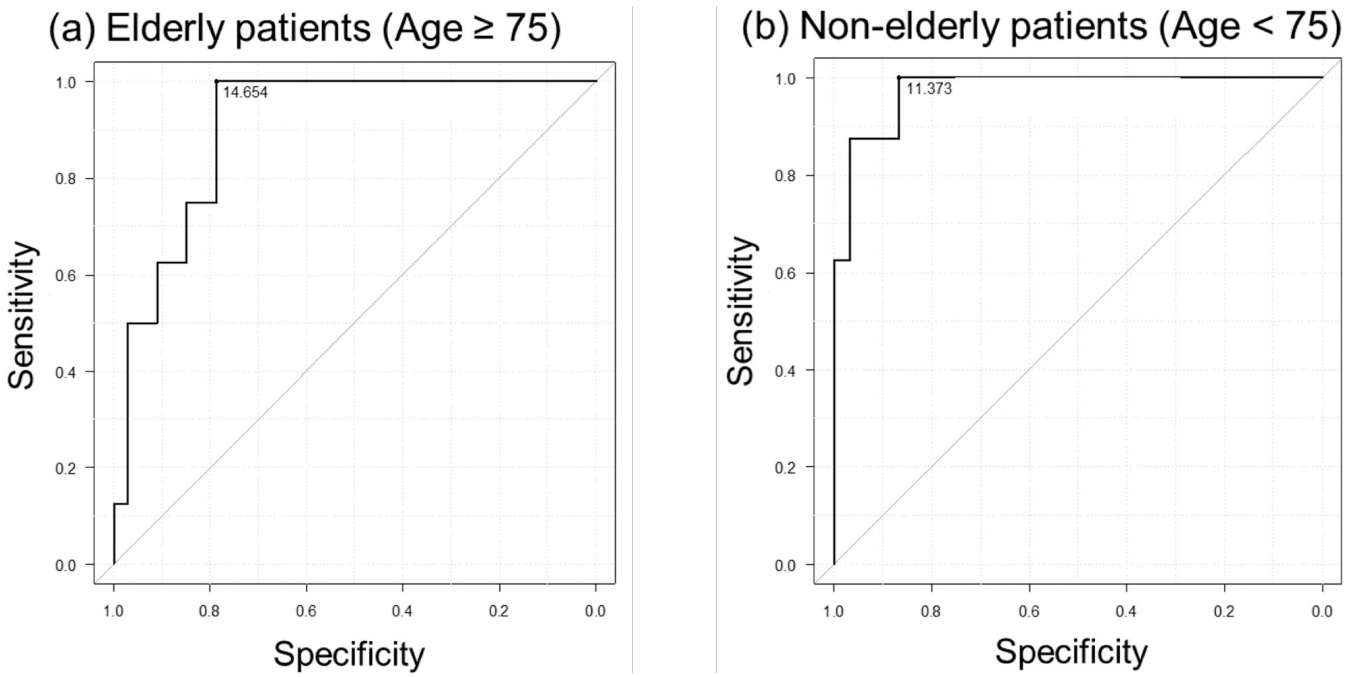


**Supplementary Fig. S1.** Receiver operating curve analyses and the cut-off values of estimated glomerular filtration rate (eGFR) for predicting end-stage renal disease (ESRD) in elderly and non-elderly patients with anti-neutrophil cytoplasmic antibody-associated vasculitis.
**(a)** In elderly patients, an eGFR <14.6 mL/min/1.73 $m^2$, which was calculated by the Youden index, predicted the occurrence of ESRD (area under the curve [AUC]: 0.905 [95% confidence interval 0.813–0.998], sensitivity: 1.000, specificity: 0.788).
**(b)** In non-elderly patients, an eGFR <11.4 mL/min/1.73 $m^2$, calculated by the Youden index, predicted the occurrence of ESRD (AUC: 0.975 [95% confidence interval 0.933–0.999], sensitivity: 1.000, specificity: 0.867).

**Supplementary Table S1.** Details of the cause of death in both elderly and non-elderly patients with AAV.

| | Elderly (age ≥75 years) | Non-elderly (age <75 years) |
|---|---|---|
| Infectious complications (n) | 3 | 1 |
| Complications due to AAV (n) | 2 | 1 |
| Cardiovascular diseases (n) | 2 | 1 |
| Other (n) | 1 | 2 |

AAV: anti-neutrophil cytoplasmic antibody-associated vasculitis.

**Supplementary Table S2.** Details of the infectious complications in both elderly and non-elderly patients with AAV.

| | Elderly (age ≥75 years) | Non-elderly (age <75 years) |
|---|---|---|
| Bacterial pneumonia (n) | 3 | 4 |
| Sepsis (n) | 2 | 2 |
| CMV infection (n) | 2 | 2 |
| Fungal infection (n) | 2 | 1 |
| Other (n) | 2 | - |

AAV, anti-neutrophil cytoplasmic antibody-associated vasculitis; CMV, cytomegalovirus.

**Supplementary Table S3.** Initial dose of TMP/SMX in both elderly and non-elderly patients with AAV.

| **Primary dose of TMP/SMX** | Elderly (Age ≥75 years) (n=41) | | Non-elderly (Age <75 years) (n=38) | |
|---|---|---|---|---|
| TMP: 160 mg/SMX: 800 mg /day (n, %) | 0 | 0 | 1 | 2.6 |
| TMP: 160 mg/SMX: 800 mg / every other day (n, %) | 3 | 7.3 | 4 | 10.5 |
| TMP: 160 mg/SMX: 800 mg / twice a week (n, %) | 1 | 2.4 | 1 | 2.6 |
| TMP: 80 mg/SMX: 400 mg /day (n, %) | 9 | 22.0 | 10 | 26.3 |
| TMP: 80 mg/SMX: 400 mg /every other day (n, %) | 0 | 0 | 0 | 0 |
| TMP: 80 mg/SMX: 400 mg /three times a week (n, %) | 17 | 41.5 | 12 | 31.6 |
| TMP: 80 mg/SMX: 400 mg /twice a week (n, %) | 5 | 12.2 | 5 | 13.1 |
| TMP: 40 mg/SMX: 200 mg /day (n, %) | 3 | 7.3 | 1 | 2.6 |
| No use (n, %) | 3 | 7.3 | 4 | 10.5 |

TMP-SMX: trimethoprim-sulfamethoxazole.

**Supplementary Table S4.** Association between the occurrence of clinical infectious (pulmonary/ENT infection or all infectious complications) events and standard dose of TMP/SMX treatment in both elderly and non-elderly patients with AAV.

| | Elderly (Age ≥ 75 years) | | | Non-elderly (Age < 75 years) | | |
|---|---|---|---|---|---|---|
| | OR | 95% CI | P value | OR | 95% CI | *p* value |
| Pulmonary/ENT infection within six months | 4.5 | 0.65-31.4 | 0.13 | 1.57 | 0.36-6.84 | 0.55 |
| All infectious complications within six months | 1.57 | 0.36-6.84 | 0.55 | 0.31 | 0.05-1.73 | 0.18 |

CI: confidence interval; ENT: ear, nose and throat; OR: odds ratio; TMP-SMX: trimethoprim-sulfamethoxazole.

**Supplementary Table S5.** Duration of TMP/SMX treatment in both elderly and non-elderly patients with AAV.

| **Duration of TMP/SMX treatment** | Elderly (Age ≥75 years) (n=41) | | Non-elderly (Age <75 years) (n=38) | |
|---|---|---|---|---|
| More than six months or total follow-up period (n,%) | 31 | 75.6 | 26 | 68.4 |
| Between one and six months (n,%) | 3 | 7.3 | 3 | 7.9 |
| Within one month or no use (n,%) | 7 | 17.1 | 9 | 23.7 |

TMP-SMX: trimethoprim- sulfamethoxazole.

**Supplementary Table S6.** Association between the occurrence of clinical infectious (pulmonary/ENT infection or all infectious complications) events and full length of TMP/SMX treatment in both elderly and non-elderly patients with AAV.

| | Elderly (Age ≥75 years) | | | Non-elderly (Age <75 years) | | |
|---|---|---|---|---|---|---|
| | OR | 95% CI | P value | OR | 95% CI | *p* value |
| Pulmonary and ENT infection within six months | - | - | - | 0.08 | 0.01-0.82 | 0.034* |
| All infectious complications within six months | - | - | - | 0.26 | 0.05-1.22 | 0.09 |

CI: confidence interval; ENT: ear, nose and throat; OR: odds ratio; TMP-SMX: trimethoprim-sulfamethoxazole.

Because of the separation of the events in elderly patients, logistic regression analyses could not statistically evaluate the results (all the patients who developed pulmonary/ENT infection or all infectious complications received full length of the TMP/SMX treatment).