Risk factors for serious infections and infection-related mortality in patients with microscopic polyangiitis: Multicentre REVEAL cohort study

顕微鏡的多発血管炎（MPA）における重症感染症および感染症関連死のリスク因子：多施設 REVEAL コホート

真辺　諄

本論文は、顕微鏡的多発血管炎（MPA）患者における重症感染症および感染関連死亡のリスク因子を明らかにし、特にグルココルチコイド（GC）の減量速度がこれらの臨床アウトカムに与える影響を評価した研究です。本研究では、2022 年に発足した関西地域の多施設共同研究である REVEAL コホートが利用されました。解析の結果、重症感染症のリスク因子として、高齢、診断時の CRP（C 反応性タンパク質）高値、および治療開始 3 か月後の GC 用量比（3 か月/初期用量）が特定されました。また、感染関連死亡のリスク因子として高齢が抽出され、さらに GC 用量比（24 か月/初期用量）が高い患者では、感染関連死亡の累積発生率が有意に増加していることが示されました。

これまでの ANCA 関連血管炎に関する感染症リスクの研究では、MPA 単独を対象とした解析や、感染関連死亡に焦点を当てた詳細な検討は乏しく、本研究はこれらの課題に新たなデータを加えるものです。また、本研究の結果を踏まえ、感染症リスクを軽減するためには、治療初期における GC の迅速な減量と維持療法期間中の最小限の投与が有効である可能性が示唆されました。

https://doi.org/10.1093/mr/roae024

Table 5. Multivariate analysis by Fine-Gray competing risk model for factors associated with serious infections and infection-related deaths in 182 patients with microscopic polyangiitis in the REVEAL cohort.

	SIs		Infection-related deaths	
Variables	HR (95% CI)	*P* value	HR (95% CI)	*P* value
Age, years	1.06 [1.02–1.09]	<0.001	1.10 [1.04–1.17]	<0.001
Sex (female)	0.65 [0.36–1.17]	0.15	0.57 [0.13–2.48]	0.46
Smoking index	1.000 [1.000–1.001]	0.51	1.000 [0.999–1.002]	0.46
CRP, mg/dL	1.07 [1.03–1.12]	0.002	1.07 [0.97–1.18]	0.16
GC dose ratio (3 month/initial dose)	8.11 [1.55–42.47]	0.013		

Abbreviations: SI, serious infection; HR, hazard ratio; CI, confidence interval; CRP, C-reactive protein; GC, glucocorticoid. GC dose (3 month/initial dose) represents for GC dose at 3 month divided by initial GC dose. Fine-Gray competing risk model was used, with serious infections and infection-related deaths as the dependent variable and column variables as the independent variables. Deaths without SIs and infection-unrelated deaths were considered as competing risk for each outcome. The number of participants with complete data was 163 and the observed outcomes were 58 for serious infections. The number of participants with complete data was 166 and the observed outcomes were 26 for infection-related deaths.

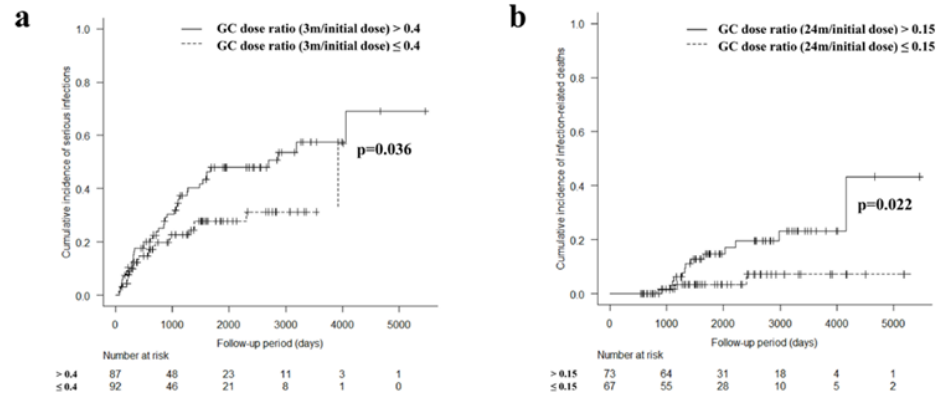

Figure 1. (a) Cumulative incidences of severe infections in patients with and without GC dose ratio (3 month/initial dose) >0.4. Cumulative incidences of severe infections were significantly higher in patients with a GC dose ratio (3 month/initial dose) >0.4, considering death without severe infections as a competing risk ($P = 0.036$). (b) Cumulative incidences of infection-related deaths in patients with and without GC dose ratio (24 month/initial dose) >0.15. Cumulative incidences of infection-related deaths were significantly higher in patients with a GC dose ratio (24 month/initial dose) >0.15, considering death without severe infections as a competing risk ($P = 0.022$). In both figures, the zero point on the x-axis corresponds to the start of treatment.

Manabe A, et al. Mod Rheumatol 2024;34(6):1185–1193, Table 5, Figure 1