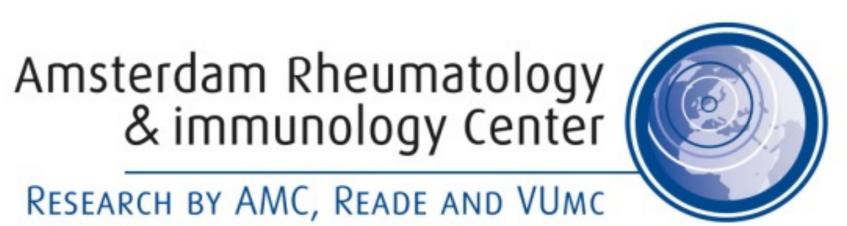
Intercurrent infection as a risk factor for disease flares in patients with systemic lupus erythematosus





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Background

Objectives: To determine whether intercurrent infections are a risk factor for disease flares in systemic lupus erythematosus.

Methods

- Prospective longitudinal cohort study in 203 patients with SLE.
- Demographic and clinical data were collected at baseline, and at the start of an intercurrent infection that either was or was not followed by a flare within three months.

Definitions:

- <u>Major infections:</u> hospital admission or intravenous antibiotic therapy was required.
- Minor infections: hospital admission not warranted.
- <u>SLE flares</u>: increase in disease activity requiring intensification of immunosuppressive therapy.¹
 - Major vs minor.

Statistics:

- Poisson regression to calculate incidence rates of infections, SLE flares, and infections followed by a flare within three months;
- Proportional hazard models with recurrent events and timevarying covariates to estimate the hazard ratio of flares within three months after an intercurrent infection.

Results

- N = 203 (9 184 (91%), Caucasian (68%))
- Median age: 40.0 years (IQR 32.0 47.0)
- Median follow-up: 6 years (IQR 3-7)

Incidence rates

- Infections:
 - Major infections: 56 major infections in 1060 patient years.
 - 5.3 per 100 patient years (95% CI: 4.1 6.9).
 - Minor infections: 670 minor infections in 1048 patient years.
 - 63.9 per 100 patient years (95% CI: 59.3 69.0).

Flares:

- Total: 198 flares in 1060 patient years.
 - 18.7 per 100 patient years (95% CI: 16.3 21.5).
- Major flares: 3.6 per 100
 patient years (95% CI: 2.6 –
 4.9).
- Minor flares: 15.1 per 100
 patient years (95% CI: 12.9 –
 17.6).

Results

Longitudinal data analysis

- HR of SLE flares within three months after an intercurrent infection (major and minor): 1.9 (95% CI: 1.3 – 2.9).
- HR of major flares within three months after a major infection:
 7.4 (95% CI: 2.2 24.6).
- No statistically significant association between major infections and minor flares.

Conclusion

- 1. Intercurrent infection is a risk factor for SLE flares.^{2,3}
- 2. **Sevenfold increased risk** of a major flare within three months after a major infection.
- 3. These findings underline the importance of prevention and treatment of infections in SLE patients.

References

- 1.Bootsma H, et al. Lancet. 1995;345(8965):1595-9.
- 2. Fernandez D, et al. Curr. Rheumatol. Rep. 2016;18(3):14.
- 3.Tsai PH, et al. Lupus. 2020;29(2):191-8.

Figure 1 Estimated cumulative incidence of SLE flares (major and minor) following an intercurrent infection within three months

