

AMERICAN COLLEGE OF RHEUMATOLOGY RESEARCH AND EDUCATION FOUNDATION -ASP JUNIOR CAREER DEVELOPMENT AWARD IN GERIATRIC MEDICINE



AWARD RECIPIENT

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PROJECT

“DOES FRAILTY IN OLD AGE AMPLIFY GLUCOCORTICOID TOXICITY?”

MENTORSHIP TEAM

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Geriatric populations, arbitrarily defined as those of age 65 years or older, have disproportionate prevalence of chronic diseases such as rheumatoid arthritis (RA), polymyalgia rheumatica, giant cell arteritis, other systemic vasculitides, chronic lymphatic leukemia, and chronic obstructive lung disease. Long-term (defined as ≥ 2 years) treatment with glucocorticoids (GC) is an important, and sometimes the only, therapy available for these conditions. The geriatric population is at higher risk for GC-induced toxicity as they utilize GC more frequently, at higher doses, and for longer duration than those studied in clinical trials. Among older patients, especially women, the impact of comorbidities and frailty can substantially increase risk for serious and sometimes fatal adverse outcomes from chronic or long-term GC use. The available literature on long-term GC toxicity either studies shorter disease duration, focuses on younger populations (ages 18-65 years), or uses age as a mere covariate. The scope of the problem in the older populations with their inherent frailty remains unclear.

We have chosen RA as a disease model to study our hypotheses. In RA, remissions are rare, events are relatively frequent, and the need for immunomodulatory treatment is often life long. The support of American College of Rheumatology Research and Education Foundation-ASP award will enable us to address several important hypotheses:

- Older patients with RA are more likely to have greater utilization of GC, especially long-term use, compared to younger RA patients.

- Within the older age group, women receive more GC and less disease modifiers, despite having disease characteristics similar to their male peers.
- GC has disproportionately worse adverse effects on older patients with RA in terms of morbidity and mortality, which could be partially explained by differences in frailty.
- Women with RA are the demographic segment most likely to suffer adverse outcomes after adjusting for other variables.
- There is a dose-threshold effect for the toxicity of GC; such a threshold becomes lower with increasing age.

We propose to use the multicenter cohorts of the Arthritis Rheumatism and Aging Medical Information Systems, a comprehensive data source of RA, in the study. This study involves supplementing existing data by additional assessment of health outcomes and hypothesis-driven statistical analyses. Ultimately, the work proposed has the potential to significantly reduce the risk for drug toxicity from GC in the elderly. With help and guidance from my mentoring team, James F. Fries, MD, Gerald Reaven, MD, and Mark C. Genovese, MD, I intend to realize that potential.