

# New Collaborative Cardio-Rheumatology Program – Improving Cardiac Outcomes in Rheumatology

By Lihi Eder, MD, PhD; Shadi Akhtari, MD, FRCPC; and Paula Harvey, BMBS, PhD

The notion that inflammation is bad for the arteries and that our rheumatic patients are at high risk for developing cardiovascular events is now well accepted in the rheumatology community. However, there are many gaps in knowledge regarding the underlying mechanisms of cardiovascular diseases in rheumatic patients, which lead to varying and conflicting recommendations for the management of cardiovascular risk in these patients. Standard clinical risk-assessment tools which take into account traditional cardiovascular risk factors underestimate cardiovascular risk in patients with inflammatory rheumatic conditions. There is a need for development of more accurate tools to assess cardiovascular risk in this population.

Additionally, significant gaps in care exist in the management of cardiovascular risk factors in patients with rheumatic diseases. Awareness of the increased cardiovascular risk among rheumatologists has not translated into adherence to treatment recommendations. A significant proportion of patients have undiagnosed and undertreated cardiovascular risk factors. These gaps in care may be explained by the fact that, understandably, visits with rheumatologists are spent addressing the management of the actual rheumatic condition, leaving little time and attention to primary prevention of cardiovascular events. This is potentially

compounded by the fact that many family physicians and even cardiologists may not be aware of the increased cardiovascular risk in these patients. Limited knowledge about cardiovascular prevention strategies and disagreement in the rheumatology community about the role of specialists versus family doctors in the management of cardiovascular risk factors are some of the potential additional reasons for this gap in care.

The Women's College Hospital Cardio-Rheumatology Program was established in July 2017 as part of a wider collaborative network within the University of Toronto that also involves physicians from Mount Sinai Hospital led by Dr Bindee Kuriya.

The program is led by Dr. Lihi Eder, staff rheumatologist and scientist at Women's College Research Institute and Dr. Paula Harvey, cardiologist and Chief of Medicine at Women's College Hospital. Together with Dr. Shadi Akhtari, a cardiologist, who runs the weekly cardio-rheum clinic, the team has set a goal to improve the management of cardiovascular risk in patients with rheumatic diseases.

Paula Harvey has been involved in the field of cardio-rheumatology since coming to Canada in 1999 from Australia to do her post-doctoral research, which evolved from her special interest in studying cardiovascular dis-



Dr. Lihi Eder



Dr. Shadi Akhtari



Dr. Paula Harvey

ease in women. This interest led to a close clinical and research collaboration with the University of Toronto Lupus Program. Lihi Eder's interest in cardiovascular morbidity in rheumatic diseases evolved during her post-doctoral fellowship at the University of Toronto Psoriatic Arthritis Program, where she investigated the effect of biologic medications on atherosclerosis progression in patients with psoriatic disease. Their shared interest in cardiovascular medicine in rheumatic patients led to the establishment of this collaborative program.

The program aims to improve the primary prevention of cardiovascular events in rheumatic patients by developing novel approaches to cardiovascular risk stratification using traditional risk factors, laboratory biomarkers and cardiovascular imaging. The clinic runs once a week and accepts referrals of patients with rheumatoid arthritis, psoriatic arthritis and ankylosing spondylitis, aged 40 years and older, who do not have a history of cardiovascular disease. Patients undergo a comprehensive evaluation including a cardiologist assessment, laboratory testing, non-invasive stress testing where appropriate, calcium score coronary CT and carotid ultrasound to quantify the carotid plaque burden. Based on the results of this detailed assessment, the patients are stratified according to their predicted future cardiovascular risk and recommendations are made regarding medication and lifestyle interventions required to reduce cardiovascular risk. The team plans to follow the clinic patients in a longitudinal study to determine the long-term outcomes of these interventions and to inform the development of evidence-based guidelines.

This collaborative model is one approach that could potentially improve co-morbidities in rheumatic patients. Similar models of care already exist for patients with diabetes and chronic kidney disease. However, such models require local resources and may not be available outside of academic centres. Raising physician awareness of the increased cardiovascular risk in patients with inflammatory rheumatic disorders while developing alternative models of shared care between family physicians, rheumatologists and cardiologists are also long-term core objectives of this novel collaborative program. Finally, educating our rheumatic patients about their increased cardiovascular risk and encouraging them to adhere to heart-healthy lifestyle recommendations is a critical component of any strategy aimed at improving cardiovascular outcomes in this cohort.

Through a coordinated care program involving the patient, rheumatologist, cardiologist and family physician, we

hope to address the unmet clinical and research needs, to identify early atherosclerosis in patients with rheumatic disease, and to improve the health outcomes of this patient population.

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