

Heart Disease in Lupus Patients



Amy S Major

Associate Professor of Medicine, Division of Rheumatology and Immunology
Associate Professor of Pathology, Microbiology and Immunology

CURRENT RESEARCH

Identifying the mechanisms of lupus and how lupus accelerates cardiovascular disease

Lupus -- more specifically systemic lupus erythematosus -- is an inflammatory, autoimmune disease caused when the immune system attacks its own tissues, affecting many organs in the body. One of the major causes of kidney failures, arthritis, cardiovascular disease (CVD), etc., lupus is devastating and difficult to treat. Dr. Amy Major, Associate Professor of Medicine, Pathology, Microbiology and Immunology, studies the mechanisms of autoimmunity and how it accelerates CVD, specifically atherosclerosis, a condition in which fat and lipid deposits sit in the artery wall and cause the artery to harden and eventually rupture. By focusing not only on the mechanisms of lupus but also the complication of lupus-accelerated atherosclerosis, Dr. Major hopes to halt the cause and effect of lupus.

Although truth still remains unknown, Dr. Major and her lab strongly believe that atherosclerosis in lupus patients is vastly different from atherosclerosis in non-lupus patients. Unfortunately, treatment of CVD in lupus patients is not really tailored to their underlying autoimmunity. In fact, many standard therapies for CVD, such as statins, are not as effective in lupus patients. As 1 in 3 lupus patients will die from a cardiovascular event perpetuated by their autoimmune disease and seminal papers have proven that young premenopausal women with lupus have a 50 times greater risk of developing premature atherosclerosis, Dr. Major's research will change the standard of care for lupus patients and will, hopefully, discover new mechanisms and novel therapies. Currently, Dr. Major collaborates with other researchers at Vanderbilt University and at University of Florida to study the immunological mechanisms of accelerated...

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AFFILIATION

Vanderbilt University

EDUCATION

- Ph.D. in Microbiology and Immunology 1998, West Virginia University

AWARDS

- Lupus Research Institute Novel Grants Award, 2005 and 2014
- Irvine H. Page Young Investigator Research Award (ATVB Council of AHA), 2007
- Lupus Foundation of America Project Startup Award, 2003
- AHA Postdoctoral Fellowship, 1999

RESEARCH AREAS

Life Science, Cardiovascular, Immunology / Inflammatory, Cardiovascular

FUNDING REQUEST

Your contributions will support the continued research of Dr. Amy Major at Vanderbilt University as she studies atherosclerosis in lupus patients. Donations will help fund the \$500K/year required to support personnel, animal models, and DNA and RNA sequencing studies related to the lupus-miRNA project. With your generosity, Dr. Major will be able to identify the mechanisms of cardiovascular disease in lupus patients, and develop effective nanomedicine that is tailored to lupus.