Investigating the roots of a poorly understood immune disease

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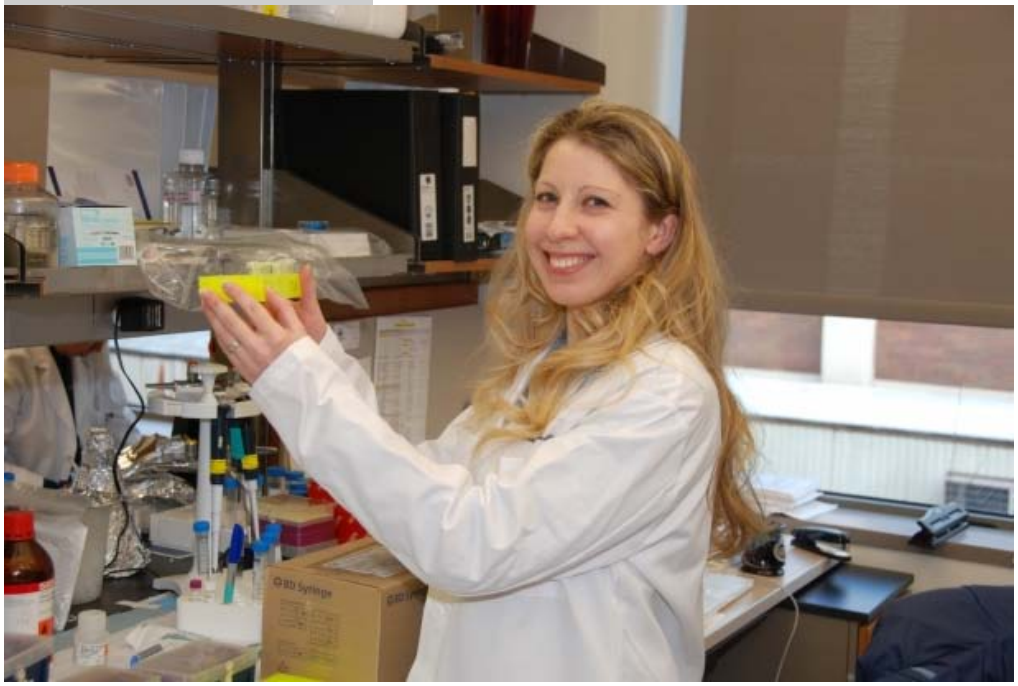

PI Jill Kramer, assistant professor in the Department of Oral Biology

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"Analysis of the Source and Significance of IgM in Sjögren's Syndrome"

Sjögren's syndrome (SS) is an autoimmune disease characterized by dry eyes and a dry mouth. Patients with SS may also experience many serious systemic disease manifestations. Current treatments focus on relieving symptoms because there are no therapies that target the disease's etiology.

Researchers from the University at Buffalo, headed up by principal investigator Jill M. Kramer, DDS, PhD, an assistant professor in the Department of Oral Biology, and co-PI Daniel Gaile, PhD, assistant professor in the Department of Biostatistics in the School of Public Health and Health Professions, are looking at the role that Immunoglobulin M (IgM), secreted by certain B cell subsets, plays in the course of the disease.

Immunoglobulin G (IgG) autoantibodies are known to mediate pathology in SS, but the role of IgM in the context of the disease is surprisingly limited, investigators say. Further work is needed just to determine whether IgM is primarily pathogenic or protective in SS. This pilot study, awarded by the Clinical and Translational Sciences Award (CTSA), is particularly timely, given that B cell depletion is being tested as a therapy for autoimmune diseases and is likely to be used to treat SS patients in the future.

The $25,000 study is funded by the National Center for Advancing Translational Sciences of the National Institutes of Health under Award Number UL1TR001412. The project represents an interdisciplinary team approach that involves several Buffalo Translational Consortium partners, with good potential for securing extramural funding from the NIH.

The team hypothesizes that some IgM+ B cell subsets are enriched for self-reactivity in SS, and that this IgM contributes to SS-like salivary gland disease. Their objective is to identify the B cell

subsets in mice that are responsible for autoreactive IgM secretion and determine whether this IgM is pathogenic. Therapies which target IgM production may represent a novel therapeutic strategy for those with SS and other autoimmune diseases.