WINTER 2020

OMRF Rheumatology Center of Excellence

Advances in Rheumatology

from the Oklahoma Medical Research Foundation

Entering a New Decade

It's a new year, and looking back, I'm reminded of how grateful I am for the outstanding clinicians and researchers in our Rheumatology Center of Excellence. Their dedication and care for each patient is an inspiration each day. I am also thankful for their diligence and passion for finding better ways to diagnose and treat the diseases that affect our patients.

Most of all, we truly appreciate you. Your generosity has made it possible to identify risk factors for diseases like lupus and rheumatoid arthritis, develop tools for earlier detection of disease flares, and discover immune changes that lead to disease. We now have more than 20 clinical trials underway in the Rheumatology Center of Excellence, including the first clinical trials focused on preventing lupus and rheumatoid arthritis. Please see the back cover for additional details.

We are also entering the peak of cold and flu season. These illnesses can lead to pneumonia, disease flares, and other serious complications. Our research has also shown that certain infections might influence a person's risk of developing lupus. That is why this issue of the newsletter focuses on staying healthy during this busy time.

Many of you may remember participating in a study of the flu vaccine in lupus several years ago. This study, which examined over 100 lupus patients and 100 matched healthy controls, showed that the flu vaccine is safe in lupus patients and that most lupus patients make a very good response to the flu vaccine. Hopefully, if you are eligible, you have already received your flu shot. If not, there is still time to receive your vaccination for this year.

If you do get sick, finding out early if it's the flu or pneumonia may help you recover sooner. A fever over 100.5 degrees and body aches are often symptoms of the flu. Chest congestion, fever and coughing with yellow-green sputum could be a sign of pneumonia. If you notice any of these, it's important to contact your clinician.

Wishing you a wonderful 2020,
Judith James, M.D., Ph.D.

A YEAR TO CELEBRATE

Renewed as one of 10 national Autoimmunity Centers of Excellence

21 clinical trials

444 people participated in research studies

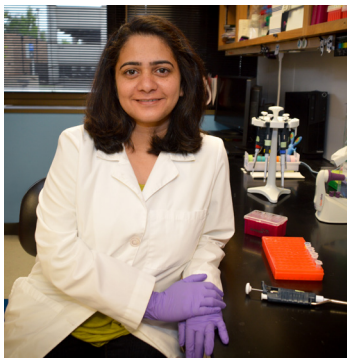
41 peer-reviewed research studies published

8 students learned about lupus and RA, as well as gained hands-on research experience

In People with a Family History of Lupus, Disease Risk May Increase When a Dormant Virus Reawakens

Nearly everyone is infected with Epstein-Barr virus during childhood. People with the virus might develop a cold-like illness, mono, or no symptoms at all. After the initial illness passes, EBV remains in a person's body for the rest of their life. The virus usually lies dormant, but occasionally it reactivates.

When active, Epstein-Barr virus upends the system of checks and balances needed to fend off infections while sparing the body's own tissues. Epstein-Barr virus can also trigger the production of lupus autoantibodies, which direct the immune system to attack the body as if it were a foreign invader.



Neelakshi Jog, Ph.D.

OMRF researchers Dr. Neelakshi Jog and Dr. Judith James hypothesized that Epstein-Barr virus reactivation might contribute to lupus onset. They looked for reactivation markers in blood samples from 436 healthy relatives of lupus patients. After about 6 years, researchers contacted the relatives again and found that 56 relatives, or 13%, had developed lupus.

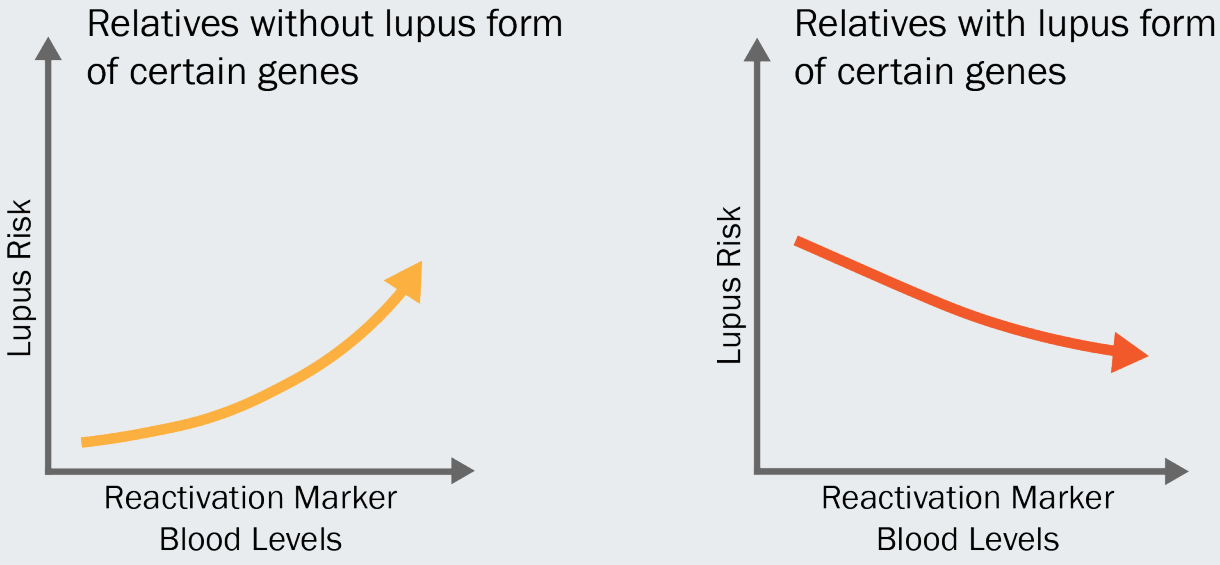
At their first visit, the relatives who later developed lupus were more likely to have reactivation markers compared to relatives without lupus autoantibodies who remained lupus-free. In addition, starting off with higher levels of reactivation markers increased the risk of later developing lupus.

Like EBV, genetic differences influence a person's risk of lupus. Therefore, the researchers asked how virus reactivation influenced lupus risk in relatives with genetic differences. Relatives with certain genetic differences were more likely to develop lupus. In these relatives, reactivation markers showed no association with lupus onset. However, in relatives without these differences, those with higher levels of reactivation markers were more likely to develop lupus.

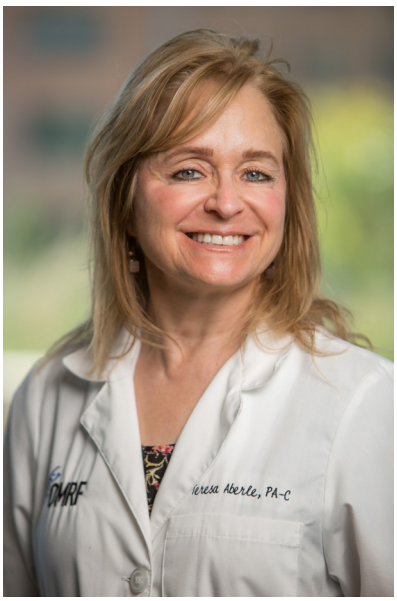
This study shows that people who have increased reactivation of Epstein-Barr virus may be at higher risk of developing lupus. By identifying individuals at high risk, OMRF researchers hope to develop new strategies for stopping lupus in its earliest stages, perhaps even before clinical symptoms develop.

By Rebecka Bourn, Ph.D., senior science writer

Reactivation Markers Indicate Higher Lupus Risk in Relatives with Certain Genetics



Meet Teresa Aberle, PA-C



If you've ever participated in an OMRF clinical trial or study, there's a good chance you already know Teresa Aberle.

A physician assistant in OMRF's Rheumatology Center of Excellence, Aberle came to OMRF in 1999. Autoimmune disease can be a real challenge, she says, because no one size fits all. But that's part of the reward she finds when working with patients: pinpointing treatment options that yield success.

"It's like turning over stones," she says. "We have to keep doing it to arrive at just the right answers for each of our patients. I love a good mystery, and when we've turned over the stone with the answer we need, it's really quite satisfying."

It takes a team to provide the best patient care, and Aberle considers herself a significant cog in the wheel of making the research happen. She sees patients on a daily basis, both for regular clinical care and as part of clinical studies. Her contributions expand the work of our clinic, supporting OMRF's rheumatologists as they "go change the world."

According to James, Aberle also has an amazing capacity to chase down all the relevant details and to convince insurance companies and compassionate care programs to provide patients with what they need.

Aberle's real love, she says, is working with prevention studies. Just the concept of being able to intervene before disease strikes or delay its onset gives her hope.

"So many of our patients had a delay in their diagnosis, so in many cases, we see them later than would be ideal," Aberle says. "To know that we might be able to keep that from happening and help them earlier in the process truly excites me."

"Teresa is an incredibly valuable member of our team."

Dr. Judith James

STAYING HEALTHY DURING COLD AND FLU SEASON

Teresa's Tips

How can I get rid of germs?

- Scrubbing with soap and water for at least 20 seconds washes away germs from hands, wrists and forearms.
- Hand sanitizer with at least 60% ethanol kills germs when soap and water are not available.
- Some soaps and lotions can make dry skin worse. Unscented, dye-free products and thick hand creams are better for dry skin.

Why is the flu vaccine important?

- Having the flu can lead to pneumonia and other serious complications.
- The flu shot is the best way to avoid the flu. It is made with inactivated flu virus that cannot cause the flu.
- Sometimes people have a low-grade fever or feel achy for a day or two after getting the flu shot. If this happens, an over-the-counter pain medicine may help you feel better.
- People close to you can help protect you from the flu by getting their flu vaccine also.

What else can I do?

- Avoid crowded places like shopping malls during peak times to lower your risk of getting sick.
- If you have to be in a crowded place or near someone who's sick, a face mask can reduce your exposure to germs.

WHAT IS INCOMPLETE LUPUS?

Lupus affects different organs in different people, and some people have more symptoms than others. Some people show a few signs of lupus but not enough to be diagnosed with systemic lupus erythematosus, also called SLE. Researchers call this incomplete lupus erythematosus, or ILE for short. People with ILE might have been diagnosed with undifferentiated connected tissue disease, a broad term that includes ILE and other related conditions.

One in five people with ILE eventually develop lupus. To identify key differences between ILE and SLE, PA Teresa Aberle and a team of OMRF researchers analyzed clinical data and blood samples from 440 ILE patients and 3,397 SLE patients.

The study participants filled out detailed questionnaires about their symptoms. In both groups, three out of four people reported joint pain, and over half reported mouth sores and sunlight sensitivity. Both groups also had similar types and frequencies of abnormal blood proteins or autoantibodies.

Medical records showed that two out of every three ILE patients used steroids or hydroxychloroquine, and ILE patients used fewer medicines than SLE patients. Compared to SLE patients ILE patients are much less likely to have major involvement of their kidneys, heart, lungs or brain.

OMRF researchers tested blood samples for BLyS, a factor that promotes autoantibody production. BLyS levels in ILE patients fell in between the high levels in SLE patients and low levels in healthy individuals.

Study results showed that ILE causes less major organ damage than SLE, but many ILE patients have symptoms that require treatment with medications. These results help better characterize the diverse group of individuals with ILE and shed light on possible blood markers for identifying people with increased risk of disease–a key to step to ultimately preventing lupus.

By Matt Sleif, medical student and senior research technician

StopRA

Rheumatoid Arthritis Prevention Trial

A simple blood test for an antibody called CCP can indicate risk for getting RA. You can have your CCP level tested for free as part of the StopRA® research trial. If you are at least 18 years old and do not have a diagnosis of RA, you may qualify for the study. Those determined to have a high CCP level may be asked to participate in a drug study that may prevent RA.

SMILE Study

Can Lupus be Prevented?

The SMILE study will help us learn whether lupus can be prevented. Participants will take either a sugar pill ("placebo") or a medicine used to treat people with lupus. We need volunteers who:

- Have at least one symptom of lupus but do not meet the criteria to be diagnosed with lupus
- Are 15-49 years old
- Do not have another autoimmune disease diagnosis
- Have never taken hydroxychloroquine (Plaquenil)

To participate in these or other trials contact **clinic@omrf.org** or **(405) 271-7805**.

OMRF Rheumatology Center of Excellence

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Hours: 8:30 a.m. - 5 p.m., Monday - Friday

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