



Lupus News

Tips and information from the BWH Lupus Center

Medications for Lupus: Past, Present and Future

By Dr. Elena Massarotti

Past and Present

Steroids, Hydroxychloroquine, and Immunosuppressants

Medications that treat lupus include **steroids** (for example prednisone, methylprednisolone), **antimalarials** (for example hydroxychloroquine), **immunosuppressants** (for example methotrexate, mycophenolate mofetil) and **biologic therapies** (for example belimumab, rituximab). It is recommended that all lupus patients be treated with **hydroxychloroquine** unless there are specific reasons you should not take it, like an allergy. This recommendation is based on the finding that hydroxychloroquine prevents lupus flares, and has other benefits like lowering cholesterol, and prevention of clots in people with lupus and antiphospholipid syndrome.

Often, medications in addition to hydroxychloroquine are needed to treat lupus symptoms. Steroids are commonly used, and effective, but are associated with the possibility of significant long-term complications. These problems include weight gain, osteoporosis (bone thinning and fractures), cataracts, glaucoma, and high blood pressure. So, a major goal of treatment is to minimize the use of steroids as much as possible, while at the same time treating lupus. Immunosuppressants like methotrexate and mycophenolate mofetil are used to “spare” or minimize the use of steroids, and treat active lupus. Immunosuppressants are effective for many lupus-related symptoms including arthritis, lupus rashes, and kidney disease. However, not all symptoms respond to these medications, and some patients may not be able to tolerate them or have reasons they cannot take them. For these reasons, safer and more effective treatments are needed.

Belimumab: A biological therapy for lupus

Biologic therapies “target” a specific molecule or biologic pathway in lupus, work differently from immunosuppressants, and are appealing because they hone in on a mechanism central to how lupus works. An example of an effective class of biologic therapies is TNF inhibitors that treat rheumatoid arthritis (for example adalimumab, etanercept). In 2011, the U.S. Food and Drug Administration (FDA) approved the first biologic therapy to treat lupus—**belimumab**. Belimumab works by targeting a factor in the blood that helps B cells grow, and B cells are involved in how the body makes antibodies. Antibodies play a big role in how lupus causes symptoms. Belimumab has been used extensively over the last nine years and improves symptoms of lupus and to date has not shown long-term side effects. However, not all patients’ symptoms respond to belimumab, and more effective therapies are needed. **Rituximab** is another biologic therapy that attacks B cells. It is FDA- approved for rheumatoid arthritis, and although it is not FDA-approved for lupus, it has been shown to effectively treat certain aspects of lupus like low platelet counts, and some forms of kidney disease.

The Future

Therapies in Development

Our increasing understanding of the immune mechanisms that play a role in the development of lupus has led to the discovery of several potential treatments over the last fifteen years. Unfortunately, many of these molecules were not shown to be effective when tested in clinical trials of people with lupus. However, recently, several compounds have shown promising preliminary results, which is great news and gives patients and rheumatologists much to hope for. Clinical trials involving patients with lupus are the key to getting new drugs approved for the treatment of lupus. Here’s a list of some of these medications:

Anifrolumab: This drug is a **monoclonal antibody** (biologic therapy) that targets the receptor for interferon alpha. Interferon alpha is involved in the immune mechanisms causing lupus. Anifrolumab has been studied in two phase III trials. One trial, called Tulip-2, showed significant improvements in lupus symptoms (skin, joints).

Baricitinib: This is a JAK inhibitor, also known as a **small molecule**. It has been FDA-approved for rheumatoid arthritis, and clinical trials in patients with lupus show that it may have a beneficial effect upon joint and skin disease.

Obinutuzumab: This is a **monoclonal antibody** directed against B cells like rituximab, but decreases the numbers of B cells more. It was recently shown to be of benefit in patients with lupus nephritis.

Ustekinumab: This drug is a **monoclonal antibody** targeting the cytokine interleukin (IL) and IL-23. It is FDA-approved for psoriasis, psoriatic arthritis, and Crohn’s disease, and has shown promising results in lupus trials.

Voclosporin: This drug is a calcineurin inhibitor. Other medicines in this category include tacrolimus and cyclosporine that have been used in lupus nephritis and skin disease related to lupus (but not FDA-approved for the lupus specifically). Trials in patients with lupus nephritis with voclosporin have shown promising results.

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Lupus Research Program:

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Lupus and Coronavirus (COVID-19)

By Dr. Karen Costenbader

- As of early March 2020, more than 40 cases of coronavirus have been diagnosed in Massachusetts.
- The CDC predicts there will be more spread in the US and abroad.
- It is spread by respiratory droplets and contact with them. Wash your hands frequently and refrain from touching surfaces, other people, your own face, mouth, eyes, and nose.
- Bring hand sanitizer with you and use it liberally and frequently.
- Avoid large gatherings and people who are sick. Many conferences, meetings and festivities have been canceled.
- Make sure your flu and pneumonia vaccines are up to date.
- If you are immunosuppressed, i.e. taking steroids or immunosuppressants such as mycophenolate mofetil [Cellcept or Myfortic], methotrexate [Trexall], leflunomide [Arava], cyclophosphamide [Cytoxan], cyclosporine, tacrolimus, belimumab [Benysta], rituximab [Rituxan], abatacept [Orencia] or other immunosuppressant, you are immunosuppressed and at greater statistical risk of getting any infection, including coronavirus. *Do not stop taking your medications, however, without thorough discussion with your doctor as your lupus may get worse.*
- In general, if you get a fever, stop taking your immunosuppressant (except steroids) and call your doctor immediately.
- Hydroxychloroquine (Plaquenil) is not immunosuppressive and you do not need to stop it for a fever, but you should still call your doctor.
- If you are traveling, discuss with your plans with your doctor. Check the WHO and CDC websites prior to travel. Purchase travel insurance as the global situation may change.
- N95 respirator masks are the only kinds that the CDC thinks are protective against coronavirus as it is spread by droplets (like tuberculosis). These are hard to find these days and must be fitted to your face and even hospitals are having trouble stocking them.



For more information please visit:

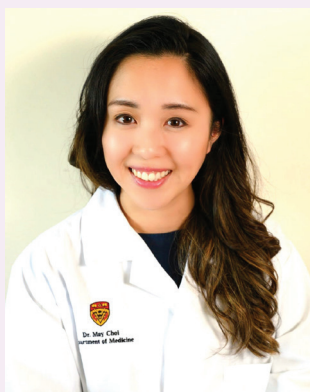
<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public>

<https://www.rheumatology.org/Announcements>

<https://www.cdc.gov/coronavirus/2019-ncov/index.html>

Introducing May Choi

The Brigham and Women's Lupus Center would like to welcome Dr. May Choi, a rheumatologist from Alberta, Canada. Dr. Choi is working with Dr. Karen Costenbader for the next two years coordinating an international study on how certain lupus specific lab tests correlate with patient outcomes over time and how these markers can inform disease activity and understandings of disease progression through-out a patient's lifetime. Dr. Choi is here under the support of the Gary S. Gilkeson Career Development Award from the Lupus Foundation of America. While in Boston she is also pursuing a master's degree in Epidemiology at the Harvard T.H. Chan School of Public Health. She is very excited that Boston is warmer than Canada, even in the dead of winter and is looking forward to exploring the Boston food scene. Welcome to the team Dr. Choi!



New Lupus Support Group!

We are excited to announce the formation of a new peer-led support group for patients and families/caregivers impacted by lupus. Sponsored by the Lupus Foundation of America and supported by BWH Lupus Center, this group offers an informative, relaxed way to connect with others dealing with this autoimmune disease.

Due to COVID-19 we do not know the date or time of the kick-off meeting. For more information on the support group and upcoming meeting dates, please visit <https://lupus.bwh.harvard.edu/> or contact Dawn Peters or Kelley Keefe at lupuslightsne@gmail.com



Community Forum

The Brigham and Women's Hospital Lupus Center will co-host our 5th annual community forum Healthy Living with Lupus with the Lupus Foundation of America, Women of Courage, Inc. and the Boston Arthritis & Lupus Support. **While we originally planned for this event to take place in the spring, to ensure patient safety we have decided to postpone it. Please keep an eye out for further notice of the scheduled date of this fun and informative event.** This year's event will include a keynote address by professional tennis player **Epiphany Turner**, presentations by physician experts and patient leaders, and breakout sessions on yoga and tai chi for people living with lupus. If you would like more information or to RSVP, please contact Kreager Taber at (617)-264-5907 or kataber@bwh.harvard.edu.