

I've been asked the question by many patients. In fact, we're getting hundreds of phone calls and emails every day from patients on biologic therapies and specifically on dupilumab because of the current pandemic with coronavirus-- should we stop our biologic therapies?

And in fact, the *Journal of Drugs in Dermatology* asked me to write a response to a British dermatologist who is calling for all dermatology patients to stop their biologic therapies. And I will say that I have a letter also that is being published today or tomorrow in the *Journal of the American Academy of Dermatology* on the same subject.

And I understand the concerns about susceptibility to infection and the possibility that we might be making infection worse. And of course, coronavirus, we have no data. So anything that I'm saying, any dermatologist the worlds can have their own similar thoughts on.

But I think we need to approach this logically. In the pivotal trials, the frequency of upper respiratory or viral infections was very similar to the frequency in the placebo group-- not much higher. Moreover, we know that having asthma is a risk factor for severe disease in COVID-19 infection. And dupilumab patients, many of our atopic dermatitis patients, have a little bit of asthma or even moderate to severe asthma that we are effectively treating when we have them on dupilumab.

And so to call for discontinuing a drug that has no evidence of a role in viral infection-- we've not shown any evidence that dupilumab ab prevents the body's response to viral infection-- and it suppresses a condition, asthma, that we know makes COVID-19 infections worse-- I think stopping the drug would be detrimental to patients.

Moreover, there is very good evidence that stopping dupilumab has a long-term effect that we don't want. Here is a drug that is making atopic dermatitis much better. It's improving the quality of life of our patients. It's taking, in some cases, debilitated patients who would not do well with any infection, including COVID-19, and making those patients normal.

It is not an immunosuppressive agent. It's an immunomodulating agent. In fact, the package insert calls it an immunotherapy. The word immunosuppressive and the word viral do not appear anywhere in the package insert for dupilumab.

And a study done at Mount Sinai showed that when we treat patients with dupilumab, over a period of 16 weeks, the IL4 levels, which are markedly elevated in lesional skin, come down to the levels that we find in those patients' unaffected skin. So since you were taking elevated levels and making them normal, we are not immunosuppressing the patients.

So with all that background, we certainly don't want to stop the drug in patients just because of the pandemic. The other drawback we don't think about, though, is that when you stop dupilumab and then retreat the patients, you can lose close to 20% of responders.

And there's a study that was presented in a poster-- Lisa Beck was the first author of it-- in which they looked at the they looked at patients who were on dupilumab, responded, and achieved a very high EASI score-- I think it was an EASU 75-- they've been discontinued the drug. When the condition recurred, they retreated those patients. Only 80.3% achieved the EASI 75. So you've lost about 20%.

Now, in that poster, they correlated that with naive patients who had about the same response. But the point is, the pretreated patients who had received dupilumab before, 100% were-- or almost all of them were responders beforehand. So we're losing about 20% of responders if we stop and restart.