



NAAF "You Are Not Alone" Webinar Series

The connection between allergies, eczema, and alopecia areata in adults and children:
Implications for new treatments
Emma Guttmann-Yaskey, MD, PhD

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LISA ANDERSON PhD: (00:00)

Welcome everyone. Welcome to the National Alopecia Areata Foundation's webinar, The Connection Between Allergies, Eczema, and Alopecia Areata in Adults and Children, Implications for New Treatments. Joining us today is Dr. Emma Guttmann-Yaskey, Waldman Professor of Dermatology and Immunology at the Icahn School of Medicine at Mount Sinai in New York. And I'm Lisa Anderson, Senior Director of Research for NAAF.

Before we start the webinar, I'd like to cover a few housekeeping details. We have disabled chat for this webinar session, but you are welcome to post questions for Dr. Guttmann in the Q & A section. Please keep your questions general for the benefit of all audience members. This webinar is being recorded and all registrants will receive a link to the recording via email, most likely tomorrow. And finally, please share your feedback with us at the conclusion of the webinar, a link to a short survey will pop up in your browser window. Please complete the survey there.

This webinar is part of NAAF's You Are Not Alone, Education and Empowerment webinar series. NAAF gratefully acknowledges the support provided for this series by our partners, Eli Lilly and Company, Pfizer and Sun Pharma.

And thank you for joining us today. We're excited to be here during Alopecia areata awareness month. Before we start the webinar, I want to tell you a little bit about NAAF and our mission. The National Alopecia Areata Foundation is the leading advocacy organization for Alopecia areata. NAAF's mission is to support research to find a cure or acceptable treatment for Alopecia areata, support those with the disease, and educate the public about Alopecia areata.

NAAF's vision is an empowered community with a choice to embrace or live free of alopecia areata. To learn more about NAAF's support resources and research and advocacy activities or to join us as an advocate or supporter, please visit our website at naf.org.

And now on to today's webinar, the connection between allergies, eczema and alopecia areata in adults and children, implications for new treatments. We're very pleased to have Dr. Emma Guttmann here with us today. Dr. Guttmann is considered one of the world's leading experts in inflammatory skin diseases. She is the Waldman Professor of Dermatology and Immunology at the Icahn School of Medicine at Mount Sinai in New York City.

She is also the director of the Center for Excellence in Eczema and the Laboratory for Inflammatory Skin Diseases. She is well known for her research on the immunologic basis of atopic dermatitis or eczema. Her work has enriched the understanding of the pathophysiology of this disorder and has opened the door for novel specific drugs for eczema treatment. More recently, Dr. Guttman has extended her research interests to hair loss disorders like alopecia areata.

And again, her research findings are identifying new targets for treatments. Dr. Guttman, we're excited to have you here today and I can't wait to hear more about your work. Thank you for being here. I'm gonna stop sharing my slides and turn it over to you.

EMMA GUTTMAN-YASSKEY, MD, PhD: (03:15)

Thank you so much. First of all, I'm so excited to be with you guys here, particularly in this incredibly important month. And I hope to raise a lot of money for you guys. at Mount Sinai, I'm the chair of the department at Mount Sinai. We all will be walking for alopecia patients with you guys.

LISA ANDERSON PhD: (03:33)

I'll just jump back to say thank you for that and we're excited to have you do the walk and maybe we can talk about it a little bit more at the end of your presentation.

EMMA GUTTMAN-YASSKEY, MD, PhD: (03:40)

Yeah, definitely. And before I start, want actually that we'll share with you a poll question. I just want to see how you guys think about allergies and alopecia before I start my lecture. So what do you guys think? Do you have any of the conditions listed below? Asthma, eczema, seasonal allergies, eosinophilic esophagitis, hives, other allergic diseases or none of the above?

And do you think this might be important? But I want to see a poll.

LISA ANDERSON PhD: (04:19)

So I'll let it go for maybe another 10 seconds because there's still a lot of people answering.

Okay, I'm going to close the poll.

EMMA GUTTMAN-YASSKEY, MD, PhD: (04:37)

Yeah, let's see what we get.

Wow. Yeah, that's what I thought. So then I think this is very relevant for you. Okay. And we'll come back to it later. So now let me share my screen. And this is my screen. And I'll put it in presentation mode. So again, I'm very excited to talk about the connection between allergies, eczema and alopecia areata.

And I came to the world of alopecia areata a little bit like I like to say through the back door. I was researching eczema and working a lot on eczema, including clinical trials for patients with eczema. And I started to notice that my patients with eczema, also many of them have

alopecia areata. So that made me think that maybe there is a connection and I'll walk you through some of our findings that I think are very meaningful to new treatments for alopecia in both adults and children. So now I don't need to tell you a lot about alopecia. I think you all know probably more than me, but it's a very prevalent disease. So very common, much more than we thought. It's almost 2 % of the population. So a lot of people have alopecia areata in the United States and that's lifetime prevalence.

In the United States, we have over 6.6 million, 147 million worldwide. Usually it's affecting the scalp, but as we know, it can affect any hairy part and about 10 % of the patients, some may say up to 20%, progress to total scalp loss, alopecia totalis, AT, or a body loss, alopecia universalis, or AU. And I don't need to tell you how much emotional disturbance and stress and psychological morbidity alopecia causes to both the patients and their families. Now, in very simple words, and I don't want to talk a lot of scientific concepts here, but in alopecia areata, see on the surface, you see a hair loss, right? You see those patches that don't have hair, and they're usually shiny. So when we look under the microscope, what we are seeing is an attack of lymphocytes. Just think about immune cells attacking the hair follicle exactly like a swarm of bees. And it's hard to really visualize it, but you see that sleeve of immune cells around the hair follicle. So basically the body is attacking itself. Now, interestingly,

Some of these immune cells and actually quite a large part of them are cells that are linked to allergy. And these two cells are eosinophils and mast cells. These cells are found in eczema, in asthma, and in many allergic diseases. And pay attention, they are a large part of the cells. So eosinophils will be found in 25 % of all the cases, more in acute alopecia areata versus chronic alopecia areata.

Remember in acute cases or in new disease, we also can make a better difference in patients. sorry about that. And mast cells as well, another allergic cell in 87.5 % of cases. And these were linked to the pathogenesis of alopecia areata and mast cells are around the hair bulb. So again, they are part of that attack of immune cells around the follicle.

Now, when I started to get interested in alopecia areata, I started to just look at epidemiology, like what is epidemiology telling us? Is there a link? And I found multiple publications, in fact, very large publications, including one from Abrar Qureshi at the time he was at Harvard, showing in a very large number of patients, more than 3,000 alopecia areata patients, that allergy in general or atopy.

And today I'll use atopy and allergy really as the same. And particularly eczema being the largest link with alopecia areata. So the largest comorbidity, more than many, many other things that were suggested to be linked to alopecia areata such as thyroid disease, for example. So remember, eczema is much more linked to alopecia areata according to epidemiology as compared to thyroid that we all knew about that. And then...

A large population-based study from Israel showed, and you know, in Israel, the age MO is for life, from the time you are a baby until you die. So it's easy for them to follow up patients. And a very large study with many, many patients with alopecia areata showed that with each allergic disease, you increase the odds to have alopecia areata and vice versa. So there is a link and a genetic studies, GWAS studies. Actually, the largest study done in the

United States published in the JID which is one of the best journals in dermatology, showed that IL-13 that is an immune molecule that is linked to allergy is the number one gene associated with alopecia areata in both patients that have alopecia areata and allergy, but also in those without allergy. So all of these told me that I'm up to something and that I should continue to investigate. Now in children, know, the NAAF has a registry. And again, children with alopecia areata, pay attention. What is the number one disease? Atopic dermatitis. Now let's look a little bit closer to alopecia areata and allergies. And why this when I started my road in this path or I started on this path, why was it a little bit going against the dogma at the time? So the dogma at the time and that dogma was based more on a mouse models. And you sometimes we need to question things from mouse models because it's not always relevant to human disease.

SO. mouse models showed that alopecia areata is only a type 1 disease. allergic diseases are ~ type 2 inflammatory diseases, which is a different pathway. And these are atopic eczema, asthma, seasonal allergies, food allergy, and hives. However, IgE, that is a marker of allergy, is high in both the atopic or allergic diseases, but also in alopecia areata. Slowly, alopecia areata, and I'll show you why, is starting to be recognized also as an allergic or atopic disease. I'll show you how we are reconciling the two thoughts, if you may.

So first of all, alopecia areata are very similar to eczema and other allergic diseases like seasonal allergies and asthma and others, have flares that are linked to seasonal variation. So very similar. The same seasonal variations that we see in eczema, we also see in alopecia areata. And this is a slide that I got from my friend, Natasha Mesinkovska Now, we started to investigate at Mount Sinai the link between alopecia areata and allergies. So now really every patient that we have, are doing IgE, but we are also looking at specific IgEs. And we started to notice that many patients will have allergies to different environmental things or food allergies. And we are very early in the game, but we find ~ foods that people have significant increases in IgEs to like peanuts, sesame seeds, wheat, shrimp, hazelnut, just to name a few, and many respiratory allergens like dust mite, cockroach, birch, walnut, white ash, again, just to name a few. So there is now also a bulk of literature that supports a possible role for allergies in alopecia areata and also the use of antihistamines as a potential adjunct therapy for alopecia areata.

So again, there are the seasonal patterns in our alopecia areata that are associated to flares and antihistamines that we'll chat, I'm sure, a little bit later. They are now being added by many, including myself, as an adjunct to treatment, not as a monotherapy, but as an adjunct to treatment. And here is one of them, fexofenadine Allegra, but you

We are utilizing many of them in different doses between 60 to 180 milligrams for the fexofenadine in adults and in children between 30 to 180 milligrams a day. And it does work in conjunction with other treatments, particularly some may use it as prophylaxis or during high risk flare months. I actually tend to use it daily in my patients regardless to just make sure I maintain their success.

Now, when I started again my road in alopecia areata, I started by doing what was at the time the largest study on patients. Because again, I think it's important to see what happens in our patients, in their scalp. And we looked at the scalp of patients with alopecia areata,

AA is alopecia areata, as compared to AD, which is atopic dermatitis, eczema, psoriasis, so that we have the whole spectrum.

of inflammatory skin diseases and we compared it to normal skin and normal scalp. And what did we see? That indeed the immune axis that originally was thought to be the important one in alopecia areata is indeed increased in all of these inflammatory conditions. This is the TH1 axis and you see that, but the Th2 axis, and here I'm showing you IL-13, is highly increased not only in the topic dermatitis or eczema, but also in the alopecia areata scalp, and also we found increases in IL-23. Later on, we went on and associated the Th2 axis with a severity of the disease, whereas the Th1 axis, we associated with the chronicity of the disease, and we'll come back to that concept a little bit later.

Now we also found that hair keratins, so hair keratins are the ones that make the hair shaft. Hair keratins are highly inhibited or down-regulated in alopecia areata, not surprising because they lost their hair. So with any treatment, we want to increase the hair keratins and they are very good biomarkers of alopecia areata. And my lab analyzed the biomarkers from the Pfizer study with their ritlicitinib that now is approved. That's our Litfulo that just got approval. And I want to show you how the biomarkers of this study highlight some type two or TH2 biomarkers that I told you are linked to the allergic spectrum or to atopic dermatitis and allergies. And these are CCL17, CCL18, IL5 at week 12.

And at week 24, we have CCL 17, IL-9, and IL-13. So again, these are type two or allergic biomarkers. And what does it mean? They are connected to the improvement. It means they are associated with the hair regrowth. So the more hair regrowth you have, the more changes in these biomarkers you have. And that associates again, mechanistically the type two immune axis that is involved in allergies with alopecia areata. Now, what about Dupilumab? Can we adapt a treatment from the allergy or eczema world? And you know, Dupilumab is now approved in asthma, in eosinophilic esophagitis, in eczema, pruragonodularis, and many other allergic indications are coming. And Dupilumab is targeting two immune molecules or cytokines that are linked to type two immunity, IL-4 and IL-13. Is there a hope here that we can adapt this as a treatment for alopecia areata? And soon I will tell you that there is such a hope and there is also a biomarker for that that soon we'll talk. So first of all, there were multiple case reports and I'll show you some linked to hair regrowth, the majority of them, not all of them showed hair regrowth, but the majority were linked to hair regrowth. And Dupilumab for eczema and for asthma, it's given every two weeks, but we have shown that in alopecia areata, it is better to actually give it weekly because, and why is that? Because patients with alopecia areata, believe it or not, have a lot of inflammation particularly systemic inflammation. So in their blood, have inflammation, even though you don't see it, but they do. So they need the higher dosing. IL-4 and IL-13, as I told you, is kind of in the center of the allergic disease spectrum, pancreatitis, asthma, eosinophilic esophagitis, and nasal polyps.

And some reports that were suggested in the literature to help, mean, with Dupixent or dupilumab have helped with alopecia areata. So there is this report in an adult, another report in an adult with alopecia universalis. In the first one, the patient had alopecia universalis for one year. The adult also had eczema and asthma since childhood.

Another one that also had atopic dermatitis was alopecia universaris for eight years. That's a long time. And another one in children, again, a patient with atopic dermatitis. And it was highlighted that he took a long time and will come back to the time for hair regrowth because it does take time to grow hair on dupilumab or the piccent. And that brings us to the study we've designed that we published, but we have another one that I'll touch upon. So that study, which we would have designed it maybe a little bit differently now, and luckily I have the chance to do that. But that study had 60 patients, 40 on drug on Dupilumab, 21 placebo. We gave the maximum dose, which is weekly Dupilumab. And we started with 30 % or more scalp hair loss. Now, all the studies that were done from Pharma they, ~ or the vast majority of them did 50 % or more of scalp hair loss. And the moment you have higher ~ involvement of the scalp, you'll ultimately have a little bit better data or the results will be slightly better because you'll not have placebo effects or almost no placebo effects.

And we thought about the fact that we should include enough patients that have either an allergic disease or history of an allergic disease or atopic dermatitis, but pay attention that only six patients had active atopic dermatitis, but many more had a history, either personal or familial, or they they happened to have, and we discovered it in retrospect, high IgE, but that was not one of the criteria for that study. What we discovered is that the response of the patients was highly correlated to the baseline IgE. So IgE is a marker of allergy and the IgE was a marker that predicted response at both 24 weeks, but also 48 weeks. And I want to show you, this is the graph of the response. Pay attention that the patients with either atopy or high IgE had a much better response than the ones without it. It's not that the ones without it didn't respond. They responded as well but it took longer and was much slower. So the ones with the IgE or atopic background, either personal or familial, were much better responders here. And this is a personalized medicine approach where you find some biomarkers that helps you enroll patients that will respond better to a different drug. And also, and we published that as well,

We link the response or the hair regrowth of the patients with the quality of life of patients. And this is a scoring system of quality of life and pay attention that itchy or painful skin is one of the criteria. Remember in eczema, we are itchy, right? So patients with alopecia areata are also itchy. We don't think about it so often, but they are. And we also did a biomarker study. So we took biopsies from the patient's scalp before the study. just in general terms, red means immune activation, blue means down regulation. Pay attention that with dupilumab, you see that what was blue turns into red and what was red turns into blue. You don't see that in the patients that didn't receive drug that were on placebo. And when you put a number, when you want to put a number, on the improvement on the patients that were on the dupilumab, it was 97%. So they improved 97 % of the scalp profile. So they basically normalized their profile. You don't see that in the patients with placebo. Pay attention, it's flat, right? And I told you the hair keratin that are really necessary to show hair regrowth, 155 % of increase in hair keratin.

So numbers never lie. I always say the proof is always in the pudding. These are patient biopsies and this is what they show us. And I told you that type two immunity or TH2 is linked to atopic, dermatitis and allergic diseases. And that immune axis improved very early, already at week 12 and then at week 24, but at week 48, pay attention.

It was in a different direction in the patients with atopy and those without atopy. What about the TH1 axis? That axis did not improve until week 48. Only at week 48, it improved. Again, that tells us that probably TH2 immunity is important early in the disease and TH1 immunity is important later to likely perpetuate the disease.

Both immune axis are important, but probably in different times of the disease. And the hair keratin, again, that are so important when you want to show hair regrowth, they grew back, they increased at week 24 and even more at week 48. And you know, I always say, show me the proof, right? You want to see a proof in the actual patients. These are only few of the patients in the study remarkable hair regrowth in many, of these patients, including full hair regrowth. And I want to zoom in to one of my patients, alopecia Universalis, for three years. And this is how he looked after the study. He is like that to this day. So serum Ig biomarker, this is something very important, but not only. Also patients with personal allergic diseases or atopy or familiar allergic diseases. So when can we think about dupilumab as a treatment? Definitely in children. And I'll talk a little bit about an NIH grant we will have, but also patients that, you know, I also give a lot of JAK inhibitors, but not everybody wants a JAK inhibitor, you know, not everybody wants to take that ~ safety, you know, risk. Or when JAK inhibitors are contraindicated, because remember, When you stop the JAK inhibitor within probably three months, you're very likely to lose your hair. Right? So that means that that medication is for life or for now we can say for life. And you know, while I think JAK inhibitors are relatively safe, they do have some safety concerns and not every patient is willing to assume those safety concerns. So definitely this is an option that we can think about.

And clinical trials are on their way. So we are doing now a large study in adults, a multi-center study, Mt. Sinai is the center. So the trial is on its way, already is recruiting in adults and about to start in children. And like I like to say, dupilumab is a marathon, is definitely not a sprint. You'll not see, you need to be there for the long haul because you'll not see likely anything for six months and probably between six to 12 months is when you receive efficacy. So it is a very safe treatment, bad and doesn't necessitate blood work, but again, it's not a marathon. And this is an example of mine in a child that re-grew hair with dupilumab. She had atopic background. She did not have active eczema, but she had atopic background and she re-grew full hair and she maintains ~ full hair.

And we are super happy we will get an NIH grant. got seven percentile to study Dupilumab in children 6 to 17. I'm super happy the study will do together with Brett King and Natasha Misinkowska and Amy Paller. We are again very, very excited for this study. And this is how you bring ideas from the lab to the clinic and back to the clinical trials and to our patients. Eventually we want to increase treatments for alopecia areata. And just to show you how our thinking also changed the way we think about alopecia areata, companies are looking at their data based on atopic background or non-topic background. And look at that. This is baricitinib, one of the JAK inhibitors, JAK1, JAK2. And pay attention that in patients with atopic dermatitis,

Actually, it works better. So, atopy may be a good prognostic factor in general in alopecia areata, and this is unlike what was believed in the past. People believe that that's a sign of

more resistant disease. So, that's good news. And pay attention that many more patients than we thought, as you compare here atopic background and not atopic background, actually a lot of the patients with alopecia areata have atopy.

or have high IIG. So even those that don't have atopy, many of them will have high IIG. So with that, ~ I want to leave time for questions. I'm sure you have a lot of questions and we're very excited at Mount Sinai. We got ~ a very generous gift from the Pure Family and we created an alopecia center ~ of excellence that is really devoted to alopecia areata, both research clinical work and clinical trials. And we are really excited to make a difference in patients' lives with alopecia. Thank you so much.

LISA ANDERSON PhD: (28:58)

Thank you so much. ~ I'm sure there'll be lots of questions. That was really interesting and great to see like the progress that's being made with potential ~ new treatments. So let's jump right into the questions and see how many we can get through. This is a question that I was wondering about myself. So you talked about the success that you've seen with Dupixent. If you stop Dupixent, will the hair fall out?

EMMA GUTTMAN-YASSKEY, MD, PhD: (29:23)

That's an excellent question. So right now with Dupixent, and Dupixent is like that for eczema too, it's never for life. So it needs to be given for eczema or for alopecia, for asthma. It also needs to be given chronically, but with Dupixent, if you stop it, you will not see it really immediately, but you'll definitely see it. So you need to continue Dupixent because it's not a treatment that you...take it for a while, let's say a year, you stop it and it doesn't come back. I think the future should be that we'll see drugs in alopecia. Who knows, maybe the OX40 antagonists that now show promise in atopic dermatitis, you stop it and for 20 weeks the disease doesn't come back. So hopefully these drugs or similar drugs may change the course because I think for alopecia we want...drugs to be developed that you'll be able to stop it and still maintain the hair. But right now we don't have these drugs.

LISA ANDERSON PhD: (30:21)

Okay, great. Somebody commented, you said Dupixent is relatively safe and you're comparing them to JAK inhibitors, but this person's noting that there are side effects from Dupixent as well. Is that something that you can comment on or is that just?

EMMA GUTTMAN-YASSKEY, MD, PhD: (30:36)

Absolutely. of course, in Dupixent in terms of safety, the way I judge safety maybe is whether or not with a drug we need to do any blood monitoring, right? The FDA is very strict in EMA. So with Dupixent, we don't have the need for blood monitoring and it is approved now for six months and up. even babies, infants that are six months and up, can take Dupixent with no blood monitoring. So that shows the safety. Now, every drug will have some side effects, absolutely. So with Dupixent, we do see in like 15, give or take 15 % of cases, we see the dry eye manifestation that it's called allergic conjunctivitis, but we are not sure it's an allergic conjunctivitis. It's more of a dry eye, pink eye. And so we ask patients to lubricate their eyes.

If that happens in my clinic, have probably like give or take 2000 patients on this drug and very few patients. Maybe I can count two patients that I remember that stopped the drug because of this. So it's not such a big deal. With that being said, you know, there are patients that we need to give them topical steroids or other things and send them to an ophthalmologist because of this, but the vast majority are tolerating it really well.

We also see quite rare, but we also see some joint pain in young individuals, quite rare again, or psoriasis from dermatitis. But overall, it is a very safe drug. And that's actually a very important point in the study with alopecia areata and that also in the asthma study, we did not see any allergic conjunctivitis or any eye manifestation. So the eye manifestation, and that's an important point, is only seen in patients with eczema. In all the other indications, it's not seen. So unlikely that this will be seen in patients with alopecia areata, very unlikely. Now in terms of JAK inhibitors, and you know, I use JAK inhibitors all the time, but you cannot use them really safely. I think when people are over 60 or 65, right, that's a major detriment. We need to be very minded. I mean, we can use it, but you know, we may face some side effects and it depends. ~ Patients with cancers, you need to be very thoughtful about that because they may increase in some cancers, increased liver functions. You need to be thinking about this.

LISA ANDERSON PhD: (33:09)
Okay.

EMMA GUTTMAN-YASSEY, MD, PhD: (33:10)
Thank you.

LISA ANDERSON PhD: (33:12)
those details. Just a note to everybody who's watching, please put your questions ~ in the Q &A rather than raise your hand. That's what we're using today. Regarding a new alopecia areata diagnosis, would you recommend an IgE blood test? Do dermatologists usually do this? And I think this kind of gets at the question of how do I talk to my doctor about this new information?

EMMA GUTTMAN-YASSEY, MD, PhD: (33:35)
Yeah, so I always recommend to do that because first of all, now the clinical trials with Dupixent or Dupilumab are available, right? And it's the maximum dose of Dupilumab weekly. And the clinical trial is available. We enroll patients with either high IgE or an allergic background, either personal or familial.

So every patient in my clinic, I do IgE. I think it's also important to know I do both IgE and specific IgEs. These panels are available and I see somebody put a comment in the chat or in the Q &A that they asked their dermatologist and their allergist about the connection between food allergies and alopecia and they said no. So they need to be a little bit better informed. There are multiple publications about this.

And so they didn't know, but yeah, there are publications about this, definitely. publications, Natasha Mesinkowska, for example, in her lectures talks about some patients that she has with high IgE. They didn't have actually ~ total high IgE, but they had high IgE, I remember,

to some trees. So you need to be thinking about that. Even a patient that will not have total IgE that is high, they may have some specific IgE to some environmental things. I think her patient was two olive trees.

LISA ANDERSON PhD: (34:58)

~ Interesting.

EMMA GUTTMAN-YASSKEY, MD, PhD: (34:59)

Yeah, so you need to be thinking about that. And there are a lot of publications. And in fact, now we understand because 10 years ago, people were giving antihistamines, but they didn't know why. So now we understand why antihistamines helped. And they still help. I think it's a good idea to give them as an edge.

LISA ANDERSON PhD: (35:22)

Okay, interesting. And does everybody keep in mind that we will be, recording this webinar, it'll be on NAAF's website, and it's not unreasonable to point your dermatologist to just this webinar and discussion, which shows the references for a lot of the research that you presented, just a suggestion. On the antihistamines, you mentioned fexofenadine. Someone asked a question about different

Antihistamines and is there a reason why one might be better than another? Is there any research about they specifically mentioned montelukast I'm not familiar with that.

EMMA GUTTMAN-YASSKEY, MD, PhD: (36:00)

Yeah, you know, I'm less familiar to be truthful with montelukast and I don't like to suggest only one antihistamine. I always ask patients, are you already on an antihistamine? If they like one that they use, like some like Claritin or Zyrtec, I tell them, you know what, continue doing that. If they are not doing, then I tell them to start Allegra. But I've noticed that all of them have some effect.

I think being on one is better than not being on one. And with ~ Allegra, usually I give them the maximum dose if it's adults, so 180. I don't see the need to break it down to the smaller. We need to remember it's a safe drug, even when you give 180 twice a day, not even once a day, so it's very safe. So I always like to push a little bit the efficacy because I want to grow their hair.

LISA ANDERSON PhD: (36:55)

Okay, here's sort of a related question. Could avoiding foods that you're allergic to reverse alopecia?

So simply avoiding foods. So the question was, could avoiding foods that you are allergic to reverse alopecia?

EMMA GUTTMAN-YASSKEY, MD, PhD: (37:23)

So the answer is, first of all, when we discuss the specific IgE's, we discuss people that don't have anaphylaxis, just that they have high IgE's. Up to now, it was not found, and by the

way, that's the same with eczema. It was not found that food allergy causes severe eczema. So it's the same for alopecia areata. So I always tell patients to not avoid foods.

That's not the way to solve your alopecia areata. You need to treat the inflammation that is associated with alopecia areata.

LISA ANDERSON PhD: (37:57)

Let me just scroll down a few questions here. Some we have already covered. Someone says, excellent presentation. Do you think there'll be a cure for alopecia areata such as a vaccine?

EMMA GUTTMAN-YASSKEY, MD, PhD: (38:08)

I would love that. So, you know, now that we have the center at Mt Sinai and before even, we are very committed to march towards a cure and we work tirelessly to find additional targets and also to adapt some existing targets from AD to alopecia, particularly that now we found that connection. And I do not know if it will necessarily be a vaccine, but maybe... another form of treatment that will provide more permanent relief. Discussed that idea that we want to kind of switch the disease around, right? So I think that's very important or found and find an antigen that is linked to alopecia areata. So I believe it will be found at some point. Yeah.

LISA ANDERSON PhD: (38:54)

That's great. That's great. Hopeful. I'm going to combine a couple of questions. One person just said, can you explain what a JAK inhibitor is? So maybe you can in the course of this next question answer that. And the question is, can this be taken while also taking baricitinib? So I don't know if the person's referring to antihistamines or dupixent, so maybe you could address both of those.

EMMA GUTTMAN-YASSKEY, MD, PhD: (39:18)

Yeah. So let me address both. First of all, JAK inhibitors, and they are very useful and why they are also important because first of all, not all the patients are good candidates for Dupixent That's right. We discussed that the patients that it will work on are the ones either with the high IgE or allergic diseases. These are not all the patients. And we did discuss it, but alopecia areata seems to have...a lot of heterogeneity, so it's not one size fits all. So for different patients, it may have different immune pathways. And JAK inhibitors come very handy when you want to target more than one immune pathway. So JAK inhibitors are oral medications and they target multiple immune pathways. So unlike Dupilumab that for better or for worse, you know, it targets one immune pathway.

And that's why it's a very specific and narrow. And that's why you don't need to do blood monitoring and other things, but JAK inhibitors target more immune pathways. And because of that, are likely to work on more patients or on more of the patients with alopecia areata. Although none of the JAK inhibitors and none of the treatments up to now work on the a hundred percent of the patients. You know, we are...

is still learning the disease and maybe will need different treatments for different patients, we do not know. So they target different immune molecules and they are way safer than

the historic medications that we had like cyclosporine and others. So they are way safer. They are still more specific than these, but they are not as specific as Dupixent. So that people understand. And what was the second one? I forgot.

LISA ANDERSON PhD: (41:06)

I remember there was another one. Yeah, there was more than one together. Yeah.

EMMA GUTTMAN-YASSKEY, MD, PhD: (41:08)

I can take it

So first of all, insurance companies will kill us, never approve that. So it's not feasible. And right now, Dupilumab is also not approved for alopecia areata, right? So it's approved for atopic dermatitis or asthma or other allergic diseases. And that's a very important end. We showed that for Dupilumab to be really good for alopecia areata.

the best dosing. It's not that it doesn't work every other week, but not so well. It works every week. And that's why that study that we are doing is weekly Dupilumab. Whereas through the insurance, you'll only be able to get every two weeks Dupilumab. So you'll not really know if it's really helpful for you. But we are doing a study. And yes, I believe that after this study, it will be sent for registration.

LISA ANDERSON PhD: (42:04)

meaning it'll go to the FDA for.

EMMA GUTTMAN-YASSKEY, MD, PhD: (42:07)

Yeah, that's the idea. are doing a more, this is a larger study in the population that we believe will be the one that it will work on. So hopefully if this is successful, it will go to registration and we are excited. We will start the study in children six to 17. We are super excited about that.

LISA ANDERSON PhD: (42:25)

Great. So can you just say a little bit more about the study because I've seen some questions that come in about where it's taking place.

EMMA GUTTMAN-YASSKEY, MD, PhD: (42:32)

So it's taking place at several centers. At our center, we already are full speed ahead. So we are in New York City. So it's ~ at our center, ~ Brett King at Yale and in Natasha Mesinkowska. That is still, I believe the contract is ongoing, but at our center, Brett, I believe it's also taking place in Rochester.

as well. So several locations and yeah, we got started and we are very excited about that.

LISA ANDERSON PhD: (43:06)

Great. And I know it's listed on clinical trials.gov. So even if the sites aren't open yet, we can put a link about it in our email that we send out. And someone asked, is it taking place in Canada? Is it just in the US? Is it international?

EMMA GUTTMAN-YASSKEY, MD, PhD: (43:15)

~ Definitely.

No,

unfortunately, it's not an international study. It's only in the United States. yeah, everything is posted on clinicaltrials.gov, the criteria. I think we have some criteria in terms of when is the last time since the last hair regrowth We want to position the study for success.

LISA ANDERSON PhD: (43:42)

Okay, very good. This question gets at how, maybe you don't know the answer to this. Someone's asking, my daughter is 20 years old with alopecia totalis eczema. Is it, I guess I misread it, but I think one question is, how long, do we know how long, if you've had alopecia areata for a very extended period of time, could this potentially still work for someone?

EMMA GUTTMAN-YASSKEY, MD, PhD: (44:03)

So, you know, I've seen it all, but what we say is the following. You can have alopecia areata for 20 years. If it was active, and what does it mean active? If you had hair regrowth all the time, like let's say you re-grew an eyebrow, you re-grew a patch on the scalp. So there was some activity, then there is hope. And when I say there was some activity, particularly in the last seven years.

If there was some regrowth during the last seven years, it's great, either with treatment or without treatment. But if for 20 years you had alopecia and you tried multiple treatments, injections of steroids and many other oral treatments or whatever, and you didn't grow hair, it's highly unlikely that unfortunately you'll grow hair.

LISA ANDERSON PhD: (44:57)

Thank you. Someone's asking specifically about one particular allergy, like sesame. And she's wondering if a child has that particular allergy but doesn't have alopecia areata, do you need to keep an eye out to see if you're going to develop alopecia areata? So if you have an allergy, how likely is it that you develop alopecia areata?

EMMA GUTTMAN-YASSKEY, MD, PhD: (45:18)

Yeah, first of all, don't stress about things that you don't need to stress about. With that being said, we do see, like we discussed, that patients with allergies, either allergies, eczema, and so on, tend to have more alopecia areata. But we only can treat what we see. However, since you may put the child in any event on an antihistamine, that antihistamine may be also preventive of getting alopecia areata, and you don't cause any harm because there is no harm in that antihistamine. So I think that's what I would do.

LISA ANDERSON PhD: (45:54)

Very good. Let's see. I think some of these were getting the same.

EMMA GUTTMAN-YASSKEY, MD, PhD: (45:59)

I'm actually surprised that I wasn't asked. I usually am asked if there is any connection between COVID or COVID immunizations and alopecia areata. And the answer is yes. the answer is actually yes. First of all, we've seen a high increase of both eczema and alopecia areata after both COVID and COVID immunizations. And there is actually a scientific explanation to that.

So there was in the middle of the pandemic, actually a very good paper from China in the Lancet showing that COVID actually increases type two immunity, the same type of immunity that causes alopecia areata, I discussed it, and eczema that shared in type two immunity. And this is the reason why likely both after COVID infection or immunization, we saw either exacerbations in alopecia areata or new cases of alopecia areata, unfortunately.

I'm not telling people not to get COVID immunizations, but there is something to it.

LISA ANDERSON PhD: (47:08)

And your COVID and did you have vaccination?

EMMA GUTTMAN-YASSEY, MD, PhD: (47:13)

Yeah, vaccinations basically induce kind of a state of mini-COVID, so they will have the same effect on being a little bit, of course, of lesser intensity.

LISA ANDERSON PhD: (47:25)

Let me see here. Is there a way, this question is about an alopecia related diet. And I think it goes at the question.

EMMA GUTTMAN-YASSEY, MD, PhD: (47:34)

Yeah,

I don't recommend such a thing because so far it didn't pan out for eczema, it didn't pan out for alopecia areata. You know, I'm also a scientist. only basically, I like to have support of data. There is no data whatsoever about that. I see somebody is asking, do you have any indication about whether Dupixent needs to be administered again or for life after the initial six to 12 months? Yes, absolutely.

We do. So once we finished our study, the study that we had, because many patients were atopic, we managed to get them on a dupixent, those that re-grew hair. And unfortunately, some of them at some point, we didn't have the ability to put them on dupixent and it took time, but some of them lost hair, whereas the ones that stayed on it still have their hair.

LISA ANDERSON PhD: (48:26)

Okay. A question that came up earlier was about scarring alopecia. The particular person asked about frontal fibrosing alopecia. Can you talk about that?

EMMA GUTTMAN-YASSEY, MD, PhD: (48:37)

Yeah,

I'm very passionate about this because we actually published a paper showing that ~ JAKs are highly involved in these diseases. And we have now a very big study at Sinai, only at Sinai, with a JAK inhibitor for scarring alopecias all of them, and we see amazing hair regrowth. So for those of you interested, you can actually join our study. It's also in clinicaltrials.gov.

LISA ANDERSON PhD: (49:05)

Okay, interesting.

EMMA GUTTMAN-YASSKEY, MD, PhD: (49:07)

Yes, think the alopecias are very different in alopecia areata. Very, very

LISA ANDERSON PhD: (49:13)

in your and so therefore the Dupixent work and type 2 implement.

EMMA GUTTMAN-YASSKEY, MD, PhD: (49:17)

The

DUpixent will not work in scarring alopecias Yeah, completely will not work.

LISA ANDERSON PhD: (49:22)

Thank you for clarifying that. In your research, you found any overlap with alopecia areata eczema and digestive issues, specifically irritable bowel syndrome?

EMMA GUTTMAN-YASSKEY, MD, PhD: (49:31)

Yes, it is linked to ulcerative colitis sometimes. So ulcerative colitis has again a type two immunity, not Crohn's. Crohn's is type one in 17. But some patients may have, we see some patients that unfortunately have ulcerative colitis, eczema, and alopecia.

LISA ANDERSON PhD: (49:33)

IDSC, sorry.

Very good. It seems like there's a little bit of confusion based because there's multiple questions about the drug names.

EMMA GUTTMAN-YASSKEY, MD, PhD: (50:02)

And Dupilumab is the same. Dupixent Dupilumab, yes.

LISA ANDERSON PhD: (50:06)

then

the JAK inhibitors that are approved, have Olumiant which is...

EMMA GUTTMAN-YASSKEY, MD, PhD: (50:11)

Olumiant is baricitinib so Olumiant is baricitinib and ritlecitinib is Litfulo

LISA ANDERSON PhD: (50:18)

Thank you. Okay, this person is asking, can you make a comparison between Dupixent and Olumiant

EMMA GUTTMAN-YASSKEY, MD, PhD: (50:24)

I never like to compare drugs. First of all, the studies were not done at the same time. It's also smaller study with dupilumab or the Dupixent And also it's hard to compare a drug that is so targeted, so specific to a drug that is much more broad, right? Targets JAK-1 and JAK-2, not only JAK-1. So definitely one is more specific.

~ One is an injectable, one is an oral, a very different drugs, also different safety profile. Again, JAK inhibitors necessitate blood work, a different monitoring. There is the black box warning. know, one does, we didn't talk about that, but one class of drug has a black box warning. dupilumab or DUPixent doesn't have a black box warning and it's approved up to six months of age. So I think both are great.

With both you need to, you know, it's a discussion with the patients and the families and to see what they want to do.

LISA ANDERSON PhD: (51:24)

Very good. Again, a related question about talking to a dermatologist. If I simply ask my dermatologist to give my 14 year old son Dupixent for asthma allergies, will his alopecia areata be improved or should I ask his allergy doctor?

EMMA GUTTMAN-YASSKEY, MD, PhD: (51:40)

allergy doctor usually will not do that. And also there are criteria. Dupixent or Dupilumab is approved only for children with a moderate to severe alopecia areata. In children, in fact, it's severe alopecia, severe atopic dermatitis depending upon the age. At 14, it's moderate to severe. So they need to have at least 10 % body surface area.

more a significant disease. Like nobody will give for a patch here and there a Dupixent. So it depends what's the severity and the discussion. I believe probably more with the dermatologist.

LISA ANDERSON PhD: (52:24)

Very good. Here's a general question and a comment. It's great that you're expanding learnings across different diseases. I often feel that we're on the cusp of understanding a lot more about all autoimmune diseases. Do you have any insight on advances that may be underway and understanding more about how to solve for autoimmune diseases in general?

EMMA GUTTMAN-YASSKEY, MD, PhD: (52:43)

That's an excellent question. So that's why I like to go to meetings where my allergy colleagues are there, my GI colleagues are there, because we learn from each other and it expands our knowledge. And that's why when I ~ study a disease, I like to do comparison with other diseases. For example, when I compare to psoriasis and eczema,

the idea was there are two poles of the immune system. Psoriasis is TH1 and eczema is TH2. And that's why I compare these to alopecia areata to see how it falls. And I think it's very

important to do these comparisons. And at the end, we want to cure all of these diseases, but it will take us some time.

LISA ANDERSON PhD: (53:27)

Well, I think I'll end our question session with this quote, with this comment that says, want to thank you as a mother of a child with alopecia areata and myself having had alopecia areata in my teens. This is amazing. I'm crying with tears of hope. So you are bringing hope to the community with the work that you're doing. And thank you so much for being here and sharing this really exciting. These are exciting developments and we're all hopeful.

EMMA GUTTMAN-YASSKEY, MD, PhD: (53:52)

I love you all and we will make a difference in this disease. Thank you.

LISA ANDERSON PhD: (53:56)

Well, I also just want to say thank you for your work that you do in support of NAAF and our research advisory council. And as you mentioned, you're doing the walk for alopecia, which is the first ever walk of its kind taking place this month on the 30th. And I know you have a team at Mount Sinai. Can you just tell the audience a little bit about what you guys are doing?

EMMA GUTTMAN-YASSKEY, MD, PhD: (54:19)

Yes, so we will be ~ walking in ~ Central Park and in many, people. So that you guys know, we have the largest department in New York City, the third largest department in the United States. So many of us, in fact, I myself usually go in, I have a house in upstate New York, so I'm staying in the city just because of this the entire weekend, because this is very dear to my heart.

And I'm so happy to support the Alopecia Areata Foundation and all of you. We are very committed to find a cure for Alopecia Areata.

LISA ANDERSON PhD: (54:56)

That's wonderful and you can see the all the hearts coming up here everybody ~ is very happy to hear you say that and we're very grateful for you and your work and thank you for being here. And I'll just thank you I'm going to share my screen again and say a little bit more about the walk. And we

EMMA GUTTMAN-YASSKEY, MD, PhD: (55:10)

Bye,

thank you all. It's been real.

LISA ANDERSON PhD: (55:13)

Thank you so much. Okay. Let's talk about the Walk for Alopecia, which is happening very soon. ~ And we hope that you will all join us, join the community for the walk that's taking place on September 30th, as Dr. Guttman said. It's not too late to register for the walk. We need you to join us in San Francisco at Lake Merced, or go ahead and walk where you are in your community. You can scan the QR code that's on your screen.

to sign up. Donations that are made in support of the walk go to supporting alopecia areata research and also for resources for living with alopecia areata. So we really hope that you'll join us during this great community-wide event. I want to let you know that our next webinar is also going to be talking about treatments. Alopecia areata treatment updates and lessons learned from recent clinical trials.

Our speaker will be Dr. Brett King, Associate Professor of Dermatology at the Yale School of Medicine. Now that we have a second FDA approved treatment that was just announced in 2023, there's new information to share on treatments for alopecia areata, how they work, and what we've learned about the disease from clinical trials. So please come and join Dr. King as he discusses these topics and answers your questions. This webinar will take place on Wednesday, October 25th at 7 p.m. Eastern time, 4 p.m. Pacific.

Registration for this webinar is now open at [naaf.org backslash webinars](https://naaf.org/backslash/webinars).

And I want to thank you all for being here today and also ask you to please share your feedback on today's webinar and of course help us plan future presentations. Your feedback is important to us. There's a short survey that will pop up in your browser window when you sign off and we appreciate it if you could complete that. And don't forget that NAAF offers a number of resources and programs to the Alopecia Areata community.

including support groups, our youth mentor and legislative liaison programs, as well as news and webinar links and how to get involved. To learn more about NAAF and the resources we offer, please visit naf.org or email us at support@naf.org. And this concludes today's webinar program. Thank you for joining us and we look forward to seeing you on the next webinar.