Treatment of Psoriasis in Children
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Kelly Cordoro, MD, interviewed by Robert Smith, MD, FAAD

ROBERT SMITH, MD, FAAD: Hi, everyone. This is *Dialogues in Dermatology*. My name is Robert Smith and I am a pediatric dermatologist at Johns Hopkins School of Medicine. I am beyond delighted today to be speaking with Dr. Kelly Cordoro, who really is a giant in the field of pediatric dermatology. By way of brief introduction, Dr. Cordoro is the McCalmont Family Endowed Professor in Pediatric Dermatology and the Chief Pediatric Dermatology at the University of California, San Francisco. She has a breadth of wisdom and experience in the management of pediatric inflammatory diseases of the skin. Today, we get to talk to her about nuances and advances in the management of pediatric psoriasis. So Dr. Cordoro, thank you so much for joining us today.

KELLY CORDORO, MD: It's such a pleasure to be here, thank you.

ROBERT SMITH, MD, FAAD: Could you start just by telling us a little bit about when you're seeing or contemplating a pediatric patient with psoriasis, clinically how does a pediatric patient with psoriasis look different or similar than adult patients with psoriasis?

KELLY CORDORO, MD: There can be significant overlap, first of all. Plaque psoriasis is the most common clinical presentation of psoriasis in children. The primary morphology doesn't differ all that much. The classic red, scaly plaque is common in typical plaque psoriasis, as it is in adults. But there are a few caveats to think about. You know and I know, as pediatric dermatologists, that pediatrics is a range from a neonate to an 18-year-old and young adult.—

--So when we talk about pediatric, it's really complicated because it's so many different age populations within that. So it depends on the age and then the subtype of psoriasis. Generally, the morphologies are the same: plaque pustular, guttate, inverse, nail psoriasis, they're not hard

to recognize. I think what a few of the differences are that are important for us to remember are that kids get a lot of psoriasis in visible locations.—

--So one of the differences significantly, which brings significant quality of life issues for kids, is the facial involvement and the very frequent palmoplantar involvement. So when you're a young child, developing, trying to sort out your esteem, your confidence, and go about the world, it's really difficult to have psoriasis in a visible location and I think that's one of the standout features that often differentiates pediatric patients.

ROBERT SMITH, MD, FAAD: I see that a lot clinically, too, especially with regard to eyelid dermatitides and scalp eruptions, oftentimes getting treated as like a stubborn seb derm or as a stubborn maybe allergic contact dermatitis of the eyelids, and it ultimately ending up being psoriasis, which oftentimes explains why it's more stubborn.

KELLY CORDORO, MD: Yeah and that's a common presentation. Actually the eyelids are really common and you're right, it's often misdiagnosed. Diaper psoriasis is the most common presentation in kids under 2. It's often misdiagnosed, and understandably so, as recalcitrant diaper dermatitis or irritant diaper dermatitis. That age can be tricky, too, because there's often no scale under the diaper because of the moisture and the friction and so it can look different. Yeah, there are some tricky presentations, so we really have to keep our mind on alert, with a high degree of suspicion for psoriasis in children who present with papulosquamous eruptions.

ROBERT SMITH, MD, FAAD: When you're seeing a pediatric patient with psoriasis, knowing that there's so much diversity of phenotype, a lot of parents have the question of how long are they going to have this disease. Is it going to be chronic? What are the chances that they're going to have psoriasis in adulthood? How do you tackle that question?

KELLY CORDORO, MD: The idea of duration of disease and prognosis is quite hard actually. We don't have many evidence-based parameters to base that information on. One of them is family history. We know that psoriasis, most forms of typical psoriasis, are a polygenic disease. Multiple different genes and the interplay between genetics, the immune system, and the environment. If a patient has a strong family history, particularly in a first degree relative, of psoriasis, their risk of having ongoing either persistent or intermittent psoriasis into older childhood, young adulthood, and beyond is much higher than, for example, a patient who has no family history of psoriasis and their psoriasis is initially provoked by, for example, a strep infection.—

--So there are some data that in the absence of a family history, psoriasis initiated by infection, whether it's strep which is the classic or viral which statistically is more common, those kids, I say this cautiously because it's not always the case, but those kids have probably a better prognosis than those who have an enriched genetic background. It's really difficult and the conversation with parents is to share that sometimes we just don't know and we have to meet the child where they are and treat what's in front of us, because it's just really hard to know the long term prognosis. So I share that struggle with you, that's a hard conversation.

ROBERT SMITH, MD, FAAD: In the last decade in particular, there's been such a strong conversation about in the management of psoriasis in adults the relationship between psoriasis and various cardiovascular and metabolic comorbidities. Do you feel like that association plays out in kids? And in thinking about that, does it impact how you evaluate them and you work them up?

KELLY CORDORO, MD: We don't have any evidence basis for cardiovascular disease or cerebrovascular disease affecting the pediatric age group. And we don't have long term prospective registries and databases and studies to suggest that a child who has moderate or

severe psoriasis as a teen, for example, or an older child will be the child who will go on to become that 40-year-old or 45-year-old young adult who has early cardiovascular disease.—

--So we don't have prospective data but it's biologically plausible. So it's biologically plausible that unchecked, uncontrolled, chronic inflammation sets a person up, by their various phases of inflammation and so forth, to have plaques and cardiovascular disease. How that informs my approach is I take all of the factors into consideration. So one of the risk factors we know independent of psoriasis for cardiovascular disease is metabolic syndrome, obesity.—

--There's no evidence basis to do extra lab monitoring in pediatric patients who present with psoriasis when looking for comorbidities. But base it on your good physicianship. Your good history and a great physical exam and family history will help you determine do I need to get a lipid profile? Do I need to look at the LFTs? Should I get a blood pressure here? And typically we would do that in a child who is overweight or has excess adiposity.—

--The best data we have right now based on comorbidities is that we don't need to evaluate children any more than what the American Academy of Pediatrics would recommend for age-based screening, unless we identify something based on our exam. So I will occasionally, we get a body mass index on everybody, and check blood pressure on all psoriasis patients. And then it just depends on how good their primary care is, whether or not they need to get lipids or other studies.—

--The potential plausibility of the so-called psoriatic march, going from uncontrolled inflammation to cardiovascular disease, does inform my discussion with families. It's really important to not make parents frightened. They're already getting inundated with information and misinformation on social media and on Google, so I try to be very realistic. We understand that uncontrolled inflammation can be bad for the body and I want to think about that as we share the decision of what steps to take to treat your child's psoriasis.

ROBERT SMITH, MD, FAAD: That's really helpful. I think when I'm seeing these patients, oftentimes I don't necessarily have a set panel that I'm doing for metabolic screening, but I think about it as a touchpoint. They're in our clinic, they're seeing us because of their skin disease. I'm witnessing perhaps early signs of metabolic disease. In theory, maybe they're seeing their pediatrician regularly but maybe they're not. They have their day off from work with their parents, their day off from school, and they're seeing me that day. It may be an opportunity for me to open up that conversation that laterally is going to be just as important for their health as the psoriasis.—

--I do like to think that as pediatricians, we oftentimes taking care of the whole patient or we're trying to. So whether or not it's directly related to psoriasis, it sort of is a nice opportunity to think about some of these comorbidities.

KELLY CORDORO, MD: I agree with you completely.

ROBERT SMITH, MD, FAAD: We're in an exciting time for the management of inflammatory diseases in adults and kids. Can you talk to us right now at the end of 2025 about the current landscape of systemic and biologic treatments for pediatric patients with psoriasis?

KELLY CORDORO, MD: It's really exciting. My practice has changed so much, as has yours, in the last decade where there's just been an informational explosion. Kids are included in trials and we have more evidence basis to treat children. I think the first thing I want to share is that I think that the therapeutic ladder is an outdated concept, where we have to start a patient on topicals, and then move through higher potency topicals, and then move to systemics, and then move to a biologic.—

--I think that we need to meet patients where they are, knowing the risks of psoriasis, particularly those kids who have comorbidities like arthritis. That's obvious that we would be

more aggressive in treating those patients. But now that we understand that we have treatments beyond the typical systemic therapies. The era of methotrexate, cyclosporine, and acitretin, that is not a bygone era. Those drugs still have a role. They are easy on, easy off, and occasionally we will reach for cyclosporin to control a significant flare.—

--Or methotrexate, which by the way is the most commonly prescribed drug for inflammatory skin disease in children, including atopic derm and psoriasis, worldwide. So I share that information because our audience may be beyond the U.S., where many of the newer, exciting agents are not available. So access is a huge issue that I think is incredibly important. That being said, biologics really in pediatric psoriasis, similar to adult, have increasingly become the preferred option, because the efficacy is just hands down superior.—

--The safety profiles are incredibly reassuring. And we have so many FDA-approved drugs for kids as young as 4 to 6. We have several biologics to choose from and I think the choice of treatment really comes down to shared decision-making. Honestly, I don't measure PASI scores in my patients, I never have. I think that's a research tool. I approach pediatric kids as to whether or not they're a candidate for systemic therapy or they're not.—

--That's based on distribution of the psoriasis, their quality of life, the overall burden of the disease. As you know, psoriasis is a really high burden disease. Kids itch in some studies as much as those with atopic derm. The family and caregivers have missed work. It's a financial burden. So psoriasis is a condition that affects the whole family and I think that all plays into treatments. For example, can a family get a child to a phototherapy clinic three times a week?—

--We know that narrowband UVB works but the logistics are so complicated. Now that we've got more convenient options at our fingertips that are safe, I really do think the more moderate to severe cases, or even psoriasis in areas like the face, the groin, the palms, and the soles, the body surface area doesn't have to be high but if the impact is high, they can't hold a ball. They

can't do artistic things or play instruments. Then even low body surface area disease warrants systemic therapy, and that includes the possibility of biologics.

ROBERT SMITH, MD, FAAD: I remember you once saying something along the lines of we can't not treat kids just because they're kids. I think there's been a lot of fear and hesitation traditionally around the use of systemic therapies and biologics around pediatric patients. But I oftentimes like to reframe it for parents and other clinicians around what are the risks of not treating. So there's so much conversation about risks of the medications themselves. But I think there's so much risk to when you see a suffering patient in front of you, whether it's a pediatric patient with psoriasis or eczema, they're actively suffering right now and we see the damage that's happening.—

--So we could talk a mile a minute about potential side effects of medications. We're already seeing the damage in front of us and we have the tools to help take that away. So I agree with you, I definitely with systemic therapies am talking about systemic treatments much earlier on than maybe even I was a couple years ago.

KELLY CORDORO, MD: Yes, I appreciate you highlighting that. I think if our listeners take one point away from this conversation it's that children remain undertreated. And we can't undertreat kids, just like you said, just because they're kids. That is a really important framework to give parents and caregivers. Often the physician wants to treat. I think our physicians in our audience are very sophisticated. I think we all recognize now that there are safe and available treatments for children with psoriasis or other inflammatory skin disease.—

--Sometimes the hurdle is the caregivers. Pointing out the side effects of the condition now on developmental stage, self-esteem building, interaction with the world, versus the side effects of therapies, it often falls in favor of treating. I appreciate you bringing that point to light because I think that's so very important.

ROBERT SMITH, MD, FAAD: Apart from all of our exciting new biologic therapies, there has been a proliferation of new topical therapies and approvals at different age points for pediatric patients with psoriasis. How have you incorporated those into your practice and have you felt that there's a big difference between them and our more traditional topical therapies, like topical steroids and topical calcineurin inhibitors?

KELLY CORDORO, MD: We don't have much or any at all head-to-head data between the topicals. The new players on the market, like roflumilast, a PDE4 inhibitor, tapinarof which is actually approved for atopic dermatitis in kids age 2 and older but not yet for pediatric psoriasis, we often get requests to prescribe those medications. I must confess, I am still using topical steroids as standard of care.—

--Using vitamin D analogs a little less. Topical calcineurin inhibitors still have heavy rotation in my patients with psoriasis on the face and the anogenital area. The newer topicals are very hard to access. They almost uniformly get denied, at least in my health system with the payers that are paying for drugs in my system at UCSF, I'm having a really hard time accessing them.—

--I have seen benefit with roflumilast, some benefit with tapinarof when I can get it. But I really think that topical steroids and topical calcineurin inhibitors and calcipotriene, still do a great job. It's really the combination of treatments, the way to maximize the benefit and reduce the side effects by using them in rotation, and prescribing the proper potencies for the job and for the site, really remain the workhorses in my clinic. How about you? Are you using a lot of the new topicals?

ROBERT SMITH, MD, FAAD: I would say my experience is very similar to yours, where my experience with these topicals is limited by access because they're very expensive. I see a predominant Medicaid population and I find that when I'm looking at a patient with pediatric psoriasis, they're either responsive with my combination of various topical therapies, of classical

therapies, or less so and I'm sort of leaning and thinking about systemic management. I don't think that adding in these new topicals is really moving the needle so much.—

--I find that it can be useful for a family who likes the idea of another nonsteroidal option, because people love nonsteroidal options. So it's almost just like a helpful extra thing for me to have in my toolbox, even though I don't feel strongly that it's necessarily going to change the course of that patient's disease so much.

KELLY CORDORO, MD: I must say that I just don't have enough experience because of lack of access to know. For example, yesterday I saw a complicated pediatric patient who has DITRA, deficiency of IL-36 receptor antagonist. He has had multiple hospitalizations for severe generalized pustular psoriasis. Just talking about access, he is on ustekinumab and we just prescribed roflumilast because he has ragingly severe inverse psoriasis. Everything else is clear and we thought let's try this.—

--It's a nonsteroidal and there's a place for it. So I think in the groin, in the intertriginous areas, we can't be using high potency topical steroids. I'm hoping he'll get benefit, I'm hoping it will be covered. Speaking of access, for example, significant generalized pustular psoriasis, we now have a new drug. We've got spesolimab, an IL-36 inhibitor. This is the perfect patient for that drug. Guess what? He's not on it.—

--One dose of that medication when he was admitted to the hospital was $56,000. My hospital would not pay for it. And he's done great on ustekinumab. So just this whole idea of access, I love the new treatments that have come into the sphere to provide increased options but it's really frustrating for all of us when we can't get them for our patients.

ROBERT SMITH, MD, FAAD: I also worry sometimes, I've seen this with atopic dermatitis, where the introduction of new topicals does introduce new logistical barriers with insurance in

terms of stepladder therapy. So all of a sudden for my patients with atopic dermatitis, in order for them to have access to dupilumab, some insurers say you need to have tried crisaborole and a topical calcineurin inhibitor and two topical steroids. I do worry about those topicals being expensive, requiring a lot of logistical paperwork, maybe being not as effective as we would like them to be. And then ultimately delaying the receipt of a systemic therapy that the patient needs.

KELLY CORDORO, MD: I have started, and I wonder your experience and our listeners, I've started sending letters back to the insurers saying, "That's not a rational therapy. It makes no medical sense. It would almost be medical malpractice to treat this patient with X, Y, or Z topical." And then as I learned from a mentor years ago, you write the line, "Please give me the name of the board certified pediatric dermatologist or even the board certified dermatologist who has decided that that's going to be covered or not going to be covered."—

--Step therapy is an insurance issue and we have to push back. We absolutely have to push back and I agree with you. I agree with you completely.

ROBERT SMITH, MD, FAAD: Are there specific evidence gaps in the understanding of pediatric psoriasis as a disease entity or in the management of pediatric psoriasis that you think really need to still be highlighted?

KELLY CORDORO, MD: I think one for sure is prognosis and risk stratification. As we started this conversation with, it's really difficult to know when we start a patient, let's just say for example a patient is started on a biologic agent. I think the evidence gap is will it actually move the dial towards permanent remission. The question we get asked all the time is when can we stop the medication. As dermatologists taking care of children, we know that what we prescribe as systemic or a biologic therapy, we are not anticipating a lifetime of treatment.—

--We are anticipating getting them through a developmental phase or putting their psoriasis in remission and waiting and then maybe reducing use or pushing out the interval between injections. We're still making it up as we go long in terms of duration of therapy. I think that's a gap. It's a gap that's hard to figure out. We need registries for long term treatment to compare drugs, how long they last, which ones might affect more of a permanent remission, if that's even possible. So I think that's definitely a gap.—

--I think the idea of the psoriatic march, are we changing the risk of long term cardiovascular or cerebrovascular disease by treating children more aggressively? I think that one in theory, we're recognizing that the biologic plausibility of the dangers of uncontrolled inflammation we see in psoriasis and other disease, I actually think it would be nice to have objective data but I think that's already informing management.—

--Finally, what evidence we do have, which is often underrecognized is all of the quality of life data. Some people ask me which biologic is better? Which has the better PASI score? Which has the most efficacy? There is a data gap there to a certain extent because we don't have head-to-head. But I will say that almost all of the biologics have very similar efficacy and they all show a reduction in quality of life. I think the one biologic that we're really rarely using anymore is etanercept, because nobody wants to inject once a week.—

--And it's efficacy is low relative to the others. But now we hold that drug in such high esteem because it really opened the runway into biologics for kids. I think there's a lot of work to be done and there's probably other domains. Which areas do you think there's a big gap or that inhibit your ability to practice evidence-based medicine? Are there any large areas that you've recognized?

ROBERT SMITH, MD, FAAD: I like to echo that. When I'm chatting about caring for pediatric patients, I like to emphasize that caring for kids is high value care, from a systems level. And

maybe not just with psoriasis but generally speaking, if we can really engage our preventative health resources and identify disease early on, we know that those kids end up becoming healthier adults and thrive in a community, thrive in our society, and are less likely to be financial burdens to the healthcare system, and sick patients.—

--And that's just a general theme. But we know there's less and less financial investment in pediatric medicine. So any kind of work that's going to focus, as you were alluding to, emphasizing early intervention with something like a psoriatic march, whether it's tackling the psoriasis itself or tackling the cardiovascular disease that's triggering the signal of psoriasis on the skin, and that being sort of a window into tackling that systemic inflammation, anything that could show that long term benefit would be beneficial to our individual patients but also beneficial to our society. I always like to emphasize that the care of kids is good for the care of everyone.

KELLY CORDORO, MD: I love that. That's so well said. You're so right, I think that it's really important that we recognize that pediatric patients, just because they're kids, don't get any less or quote, unquote smaller disease. They have enormous complexity and it's so important, it's such an important cause. I actually think that's underrecognized. Even in specialty societies and so forth, pediatric patients are almost an afterthought. But all of our pediatric patients become somebody's adult patients.—

--I think getting the word out and helping people to recognize that when we start in the pediatric age group, our entire stable of patients is going to be transferred to our adult providers soon enough. I think in terms of the evidence gaps, risk stratification is huge. Who is going to have more severe disease? Who do I need to use a systemic agent for? Also just drug selection. It would be nice to become able to practice specific personalized medicine.—

--This is the psoriasis, this is the phenotype, the genotype, the environmental milieu of this individual patient, and some algorithm spits out. So they need this drug, they need an IL-17 inhibitor. We use comorbidities and we know we should favor certain biologics or systemics when a patient has a certain issue, like inflammatory bowel disease we don't look to the IL-17 inhibitors. And we have a few of those paradigms but not many.—

--I think personalized medicine, of course, is always the goal. The other thing I might mention is long term safety. So the one thing, we might talk about methotrexate, that drug has been used since 1953 or 1954. It's the medication that everybody knows and feels comfortable with and kids do very well, for example. And we know how to predict short and long term consequences. But we have no idea when we're prescribing an IL-17 inhibitor or an IL-23 inhibitor.—

--In 15 years, will there be a new signal? And I think there is a vulnerability and of taking care of pediatric patients and a responsibility for us to really keep that in mind. I might note that there's no data on when you can stop these treatments. There's no trials that tell us, "Here is how to stop these drugs," or even reduce them. And that bothers me sometimes because I think in our adult populations, a drug is written and they're just expected they're going to stay on it forever. We know we can't practice like that in pediatric patients.—

--So I think long term outcomes, there's just insufficient, the impact of biologic therapies on development and progression of psoriatic-associated comorbidities. So I think that work is worth doing and so out of reach because it's so expensive to do long term data collection analysis by way of registry. We still don't have a pediatric psoriasis registry.

ROBERT SMITH, MD, FAAD: Dr. Cordoro, this has been such a lovely conversation. I'd like to end by whenever I'm chatting with a pediatric dermatologist with emphasizing again, I know this has been a theme, but there are really only 400 practicing pediatric dermatologists in the country, which comprises about 3 percent of our entire dermatology workforce. What that

means is that we rely on our adult colleagues who are trained in pediatrics, which is every board certified dermatologist, to help manage the burden of pediatric disease.—

--With that in mind, are there any key takeaway points that you'd like to share with our general dermatology colleagues who have an interest in caring for our pediatric patients with more severe skin disease?

KELLY CORDORO, MD: I appreciate that perspective so much. And you're right, all of our general dermatologists can and know how to treat pediatric patients. I think it is difficult because, as we started this conversation, talking about the age spectrum. So when a patient is 13, 14 years of age and older, they can largely be treated physiologically like adults. They're typically of the weight and so forth. Now, they're not psychologically or emotionally as mature as adults.—

--But in terms of pharmacokinetics and pharmacodynamics of drugs, when a patient is 14 or older, you can think about treating them as an adult. When kids are younger, I think it's important to use the principles of shared decision making to talk with families. Consider everything about the presentation. If a child has a flare because of an infection, maybe we're a little more conservative and we treat the infection and see how things play out.—

--But if a child has severe disease, widespread plaques or plaques in visible or areas of the body that render them unable to participate in activities, which is so important for their social development and their overall development, then I ask our general derm providers to be assertive in their treatment. Think about the overall context of the patient and the drugs they might choose relative to the disease impact and feel comfortable treating.—

--I would also say that a pediatric dermatologist is only a phone call or an email or a text away. We should be making ourselves available to our adult dermatology colleagues to just give a little

bit of guidance, a little bit of reassurance when they have questions. I think the ending message here is not to undertreat kids just because they're kids. And really consider the risks and consequences of the condition, along with those of the treatment, and to really emphasize that with parents.

ROBERT SMITH, MD, FAAD: I couldn't have asked for a better ending. Thank you so much for your time and attention and for all of your lifelong care of pediatric patients.

KELLY CORDORO, MD: Truly. It's really an honor and a privilege to have the conversation and to take care of these kids, so thank you. Thank you for inviting me.

ROBERT SMITH, MD, FAAD: Great.