Pediatric Pearls From the AAD Annual Meeting

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This article summarizes novel pediatric dermatology clinical pearls and emerging literature highlights compiled from the 2017 Annual Meeting of the American Academy of Dermatology in Orlando, Florida.

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This article exhibits key pediatric dermatology pearls garnered at the 2017 Annual Meeting of the American Academy of Dermatology (AAD) in Orlando, Florida (March 3–7, 2017). Highlights from both the Society for Pediatric Dermatology pre-AAD meeting (March 2, 2017) and the AAD general meeting sessions are included. This discussion is intended to help maximize care of our pediatric patients in dermatology and present high-yield take-home points from the AAD that can be readily transferred to our patient care.

"New Tools for Your Therapeutic Toolbox" by Erin Mathes, MD (University of California, San Francisco)

During this lecture at the Society for Pediatric Dermatology meeting, Dr. Mathes discussed a randomized controlled trial that took place in 2014 in both the United States and the United Kingdom to assess skin barrier enhancement to reduce the incidence of atopic dermatitis (AD) in 124 high-risk infants.[1] The high-risk infants had either a parent or sibling with physician-diagnosed AD, asthma, or rhinitis, or a first-degree relative with an aforementioned condition. Full-body emollient therapy was applied at least once daily within 3 weeks of birth for 6 months, while the control arm did not use emollient. Parents were allowed to choose from the following emollients: sunflower seed oil, moisturizing cream, or ointment. The primary outcome was the incidence of AD at 6 months. The authors found a 43% incidence of AD in the control group compared to 22% in the emollient group, amounting to a relative risk reduction of approximately 50%.[1]

Emollients in AD are hypothesized to help through the enhanced barrier function and decreased penetration of irritant substances and allergens. This study is vital given the ease of use of emollients and the foreseeable substantial impact on reduced health care costs associated with the decreased incidence of AD.

Take-Home Point—Full-body emollient therapy within 3 weeks of birth may reduce the incidence of AD in high-risk infants.

Dr. Mathes also discussed the novel topical phosphodiesterase 4 inhibitor crisaborole and its emerging role in AD. She reviewed the results of a large phase 3 trial of crisaborole therapy for patients aged 2 years or older with mild to moderate AD.[2] Crisaborole ointment was applied twice daily for 28 days. The primary outcome measured was an investigator static global assessment score of clear or almost clear, which is a score for AD based on the degree of erythema, presence of oozing and crusting, and presence of induration or papulation. Overall, 32.8% of patients treated with crisaborole achieved success compared to 25.4% of vehicle-treated patients. The control patients were still given a vehicle to apply, which can function as therapy to help repair the barrier of AD and thus theoretically reduced the percentage gap between patients who met success with and without crisaborole therapy. Furthermore, only 4% of patients reported adverse effects such as burning and stinging with application of crisaborole in contrast to

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topical calcineurin inhibitors, which can elicit symptoms up to 50% of the time.[2] In summary, this lecture reviewed the first new topical treatment for AD in 15 years.

Take-Home Point—Crisaborole ointment is a novel topical phosphodiesterase 4 inhibitor approved for mild to moderate AD in patients 2 years of age and older.

"The Truth About Pediatric Contact Dermatitis" by Sharon Jacob, MD (Loma Linda University, California)

In this session, Dr. Jacob discussed how she approaches pediatric patients with suspected contact dermatitis and elaborated on the common allergens unique to this patient population. Furthermore, she explained the substantial role of nickel in pediatric contact dermatitis, citing a study performed in Denmark and the United States, which tested 212 toys for nickel using the dimethylglyoxime test and found that 34.4% of toys did in fact release nickel.[3] Additional studies have shown that nickel released from children's toys is deposited on the skin, even with short contact times such as 30 minutes on one or more occasions within 2 weeks.[3,4] She is currently evaluating the presence of nickel in locales frequented by children such as schools, libraries, and supermarkets. Interestingly, she anecdotally found that a pediatric eczematous eruption in a spiralized distribution of the legs can be attributed to the presence of nickel in school chairs, and the morphology is secondary to children wrapping their legs around the chairs. In conclusion, she reiterated that nickel continues to be the top allergen among pediatric patients, and states that additional allergens for patch testing in this population are unique to their adult counterparts.

Take-Home Point—Nickel is an ubiquitous allergen for pediatric contact dermatitis; additionally, the list of allergens for patch testing should be tailored to this patient population.

"When to Image, When to Sedate" by Annette Wagner, MD (Northwestern Medicine, Chicago, Illinois)

This lecture was a 3-part discussion on the safety of general anesthesia in children, when to image children, and when sedation may be worth the risk. Dr. Wagner shared her pearls for when children younger than 3 years may benefit from dermatologic procedures that involve general anesthesia. Large congenital lesions of the scalp or face that require tissue expansion or multiple stages may be best performed at a younger age due to the flexibility of the infant scalp, providing the best outcome. Additional considerations include a questionable malignant diagnosis in which a punch biopsy is not enough, rapidly growing facial lesions, Spitz nevi of the face, congenital lesions with no available therapy, and nonhealing refractory lesions causing severe pain. The general rule proposed was intervention for single procedures lasting less than 1 hour that otherwise would result in a worse outcome if postponed. Finally, she concluded to always advocate for your patient, to wait if the outcome will be the same regardless of timing, and to be frank about not knowing the risks of general anesthesia in this population. The resource, SmartTots (http://smarttots.org) provides current consensus statements and ongoing research on the use and safety of general anesthesia in children.

Take-Home Point—General sedation may be considered for short pediatric procedures that will result in a worse outcome if postponed.

"Highlights From the Pediatric Literature" by Katherine Marks, DO (Geisinger, Danville and Wilkes-Barre, Pennsylvania)

Dr. Marks discussed numerous emerging pediatric dermatology articles. One article looked at 40 infants with proliferating infantile hemangiomas (IHs) who had timolol gel 0.5% applied twice daily.[5] The primary outcomes were the urinary excretion and serum levels of timolol as well as the clinical response to therapy measured by a visual analog scale at monthly visits. A urinalysis collected 3 to 4 hours after timolol application was found to be positive in 83% (20/24) of the tested patients; the first 3 positive infants were then sent to have their serum timolol levels drawn and also were found to be positive, though substantially small levels (median, 0.16 ng/mL). The 3 patients tested had small IHs on the face with no ulceration. None of these patients experienced adverse effects and all of the IHs significantly ($P<.001$) improved with therapy. The authors stated that even though the absorption was minimal, it is wise to be cognizant about the use of timolol in certain patient demographics such as preterm or young infants with large ulcerating IHs.[5]

Take-Home Point—Systemic absorption with topical timolol occurs, albeit substantially small; be judicious about giving this medication in select patient populations with ulcerated hemangiomas.

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