Treatment Strategies for Pediatric Psoriasis

Approaches to treatment and management should balance caution with aggressiveness.

By Jerry Bagel, MD

While more common in adults, psoriasis also affects select individuals of the pediatric population. The presentation in children can be similar to adults; however, approaches to treatment and management often differ out of necessity. Many of the agents typically used for more persistent cases of psoriasis cannot be used in the same capacity with pediatric patients, if at all. However, it is important to be vigorous, even aggressive, because psoriasis can sometimes be more physically and psychologically distressing for younger patients. Ahead, I will review data on the prevalence of pediatric psoriasis and discuss several treatment strategies.

Prevalence of Pediatric Psoriasis

Clinicians must be attentive for the diagnosis of psoriasis in children. It is believed that between 10 percent and one third of all patients with psoriasis develop the disease during childhood. The occurrence of two incidence peaks has been suggested with one peak in adolescence and the other in adulthood. A recent study from the Mayo Clinic found the annual incidence of pediatric psoriasis to be 40.8 per 100,000 compared to 120 per 100,000 in the adult population.[1] Several studies have revealed that one third of patients who develop symptoms of psoriasis during childhood are not diagnosed until adulthood. The Mayo Clinic study does not support a dual peak in age of onset, but rather a steady increase with age overall until the seventh decade, with a more rapid increase until age 35. In children, specifically, there appears to be a more rapid increase until age seven, thereafter it levels off. Interestingly, there has been a two-fold increase in incidence in children from 1974-1999, similar to the increase seen in the adult population. In addition, incidence is equal between boys and girls.

Chronic plaque psoriasis is the most common type among children, accounting for 74 percent of cases. Guttate psoriasis is also somewhat common (14 percent) in children, while pustular and erythrodermic psoriasis are less common.[2] Importantly, juvenile psoriasis has been associated with an increased rate of stress, strep infections, hyperlipedemia, depression, obesity, hypertension, diabetes, arthritis, and Crohn's disease.[3] These factors may also play a role in increasing incidence of psoriasis.

Diagnosis and Treatment

Early diagnosis and appropriate management of

Take-Home Tips. A lack of approved medications for the treatment of pediatric psoriasis has unfortunately resulted in loosely defined guidelines and less aggressive approaches to treatment. For patients with less than 10 percent BSA, topical vitamin D analogue ointments represent a good starting point for therapy. However, for patients with greater than 10 percent BSA, topical steroids may be necessary, especially when combined with topical vitamin D therapy. The next step would be to administer Narrowband UVB light therapy (if possible), and then consider retinoids and systemic agents such as methotrexate or etanercept. Finally, it is essential that physicians become patients' allies by bringing children and parents onto the treatment team.

psoriasis in childhood, while a challenge, can help reduce psychosocial issues. Management involves education of the child and her/his parents concerning the chronic nature of the disease. Treatment is even more challenging than in adults, because there are no FDA-approved systemic treatments for pediatric patients, and, additionally, compliance potentially is a more significant issue. Treatment options in children often require special care in order not to endanger the development or the future health of the child.[4]

Topical corticosteroids can be used to treat pediatric psoriasis, but they are associated with more frequent and severe adverse events in children. Class 1, 2, or 3 steroids should be used with extreme caution. These agents should not be used for longer than two weeks and should not be used on the face or intertriginous areas. It is also important to keep in mind that there is higher percutaneous absorption in children, therefore, to avoid HPA suppression in patients with less than 10 percent BSA, 30 g/week would be an appropriate dosage for topical corticosteroids.

Topical calcineuron inhibitors have been used on the face and intertriginous areas with good and safe results.[4] Topical Vitamin D analogues, such as calcipotriene (Taclonex, Leo Pharma) and calcitriol (Vectical, Galderma), provide reliable efficacy and safety, especially when used in combination. However, their usefulness may be limited to patients with less than 20 percent BSA. Another option worth considering is Narrowband UVB (NB-UVB), which can be an effective modality in children with moderate to severe psoriasis. PASI 90 (A reduction by 90 percent in the Psoriasis Area Severity Index) has been achieved in 60 percent of patients treated with NB-UVB.[8] PUVA can be used if NB-UVB fails, however its use should be limited to no more than one or two courses, as it is well documented that over 150 treatments increases the risk of squamous cell carcinoma five- to six-fold.

Systemic Options. There are no FDA-approved systemic treatments for children and adolescents with moderate to severe psoriasis, and they should therefore be used sparingly. Acetretin may be used in refractory cases, as an adjunct to phototherapy or in pustular or exfoliative erythrodermic psoriasis. For rapid control of exfoliative erythroderma, cyclosporine 3-5mg/kg can be helpful as well. Cyclosporine can also be effective in treating plaque psoriasis. In addition, Methotrexate has been shown to be efficacious at 0.2-0.4mg/kg once per week, and can be used for many months.

Biologic Therapies. Although etanercept (Enbrel, Amgen) and adalimumab (Humira, Abbot) are FDA-approved for Juvenile Rheumatoid Arthritis (JRA) in individuals as young as age four, biologics are only approved in the US for the treatment of psoriasis in patients over the age of 18.

Studies of biologics to treat psoriasis in children have been limited due to the concern over the possible increased likelihood of malignancy in children, despite the lack of evidence showing a clear causal relationship.[5] However, biologics can be safe and

Healthy Interaction

Some young children have the ability to understand their disease and how treatment can benefit them, but all pediatric patients with psoriasis can benefit from talking about their condition with people who will understand their burdens and can help them better understand with it. Partnering with parents and encouraging them to join the National Psoriasis Foundation (www.psoriasis.org; 800-723-9166) can help. Participating in NPF-sponsored walks creates opportunities for children with psoriasis to get to know other people with psoriasis and helps greatly in allowing them to cope with their condition. In addition, it enables moms and dads to interact with other parents of other families that are affected by the disease. For more information, patients can call 877-825-WALK (9255).

effective, provided that physicians are cautious and attentive to family history and risk-benefit profile ratios for each patient.[6] One study evaluated the effects of etanercept 0.8mg/kg (maximum 50mg) in patients between the ages of four and 17. Patients received etanercept or placebo once weekly for 12 weeks, followed by an open label extension for 24 weeks.[7] At 12 weeks, 57 percent of those receiving etanercept achieved PASI 75, compared to 11 percent of those in the placebo group. At 36 weeks, 68 percent of etanercept-treated patients achieved PASI 75. Safety data were encouraging. Serious adverse events were comparable between drug and placebo, with no reported cases of death, cancer, severe opportunistic infections, or demylentating disease reported. Infections in the etanercept group included pilonidal cyst, acute viral syndrome, blood culture positive bacteremia, and increase in upper respiratory infections and nasopharyngitis.

In June of 2008, an FDA advisory committee voted to recommend the approval of etanercept for the treatment of pediatric psoriasis. However, Amgen opted to drop its bid for approval when the FDA asked for additional tests. Subsequently, a black box was implemented on TNF-inhibitors for children based on possible increase risk of lymphoma and leukemia. Etanercept should therefore not be used for children with a family history of lymphoma or leukemia, nor should it be prescribed for patients with Crohn's disease, unless there are no other viable options. However, with proper monitoring, it can be effective in children as young as three years old.[6]

Allies in Treatment

The paucity of approved medications for the treatment of pediatric psoriasis has unfortunately resulted in loosely defined guidelines and less aggressive approaches to treatment. However, despite having fewer choices, physicians should understand that children with psoriasis want and deserve to be treated with the finest care. Despite the physical pains psoriasis can cause, children with psoriasis (as well as their parents) can be equally affected by the emotional burden of the disease.[4] Teasing at school and potentially greater fears of the unknown can exacerbate the emotional impact of psoriasis in children. Therefore, it is important to be aggressive when navigating the therapeutic options but cautious with selection and administration. Patients will likely require more time to discuss risk benefit ratios and prognosis, both to allow the patient and parents to feel comfortable and, for the physician, to allow for thorough consideration and review of patient history and the risks associated with each option.

Beyond therapeutic selection, it is essential that physicians become parents' allies by bringing the child onto the treatment team. As has been reported in the treatment of acne patients, successful management often benefits from the patient-physician relationship whereby the two determine the optimal treatment plan in which compliance factors—which are more difficult to execute with children—are considered.[7]

Although it can be a challenge to maintain the balance between caution and aggressiveness, treatment of this unique and often difficult-to-treat condition is particularly rewarding when you achieve success and can bring relief to children with pediatric psoriasis. ■

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