Successful treatment of severe psoriasis vulgaris in child with methotrexate injection

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Abstract

Pediatric psoriasis could begin in childhood in almost one-third of the cases. There are currently no international standardized guidelines for medical treatment of pediatric psoriasis. Case: A 3-years-old girl with a 1-year history of psoriasis came to outpatient clinic. She already went to dermatologist but only reached mild improvement. The lesion became worse within 2 months. PASI score was 32. The patient was given methotrexate injection 0,5 mg/BW/week for about 3 months. PASI score was decrease and became 15 after 3 months of the therapy with no serious side effect. Discussion: The treatment approach is based primarily on guidelines for adult psoriasis, a few case series, expert opinions, or experience with systemic drugs acquired in other pediatric disorders. Systemic treatment was given to this patient because the child was categorized as severe psoriasis. Conclusion: Methotrexate treatment in this patient was showed a good progression with no serious side effect.

Introduction

Psoriasis is a common chronic scaly inflammatory condition that primarily affects the skin and begins in childhood in almost one-third of the cases and the published incidence rates in children have more than doubled since 1970.[1-5] Psoriatic skin lesions are characterized by well-defined erythematous scaly plaques and tend to have a chronic relapsing and remitting course. Although children present with the same clinical subtypes of psoriasis seen in adults, lesions may differ in distribution and morphology, and their clinical symptoms at presentation may vary from those reported by adult patients.[2,4,6] Nevertheless, diagnosis of psoriasis is primarily based on clinical features. Early onset during infancy, childhood or adolescence has a significant impact on the child's quality of life, and those who cannot be managed with topical treatment should be considered for systemic treatment.[2,7] There are currently no international standardized guidelines for medical treatment of pediatric psoriasis. Treatment is primarily based on published case series, guidelines for adult psoriasis, expert opinions and experience with these drugs in other pediatric disorders.

Case Report

A 3-year-old girl came to outpatient clinic with recurrence scaly redness patches since 1 years, and became worse in 2 months before she came to the hospital. The first lesion appeared in scalp and then spread to other parts (neck, body, hand, and feet. There were with Itchy and burning sensation that make she scratched the lesion. The lesion became worse if the patient's got cough. She already went to dermatologist and got medication (emolien and desoksimethasone cream) but only reached mild improvement. History of fever, toothache, hair loss, pain on his joint, lession on her nail was denied. History of using topical medication, consumed drug except from doctor, and consuming herbal medicine was denied. There was no history of family have the same disease. General state within the normal limit. Her body weight is 11 kg. Nutritional state was normal based on BMI (Body Mass Indeks) 14. From dermatological state, on general region there were erythematous plaque, sharply marginated with white thick scale, attached in central, release in the margin. Karvlek sign (+), Auspitz's sign (+) , Koebner phenomenon (+). On scalp region there were white thick scale. There was no pitting nail, subungual hyperkeratosis, dyschromia, and geographic tongue. PASI Score was 32 (Figure 1). From the laboratory examination, leukocyte level was increase 14.000/mm^3. Histopathological examination taken from skin biopsy showed parakeratosis, acanthosis, elongated rete ridge, psoriasiform hyperplasia not clear, neutrophil in stratum corneum. vasodilatation capiler with infiltration lymphocyte and histiocytic perivascular, and it suitable for psoriasis vulgaris. The patient was consulted to Ear Nose Throat because there was dysphagia, and she was diagnosed as pharyngitis. The patient was given methotrexate injection 2,5 mg for starting dose, desoksimetason 0,25 % ointment for body, mometason furoat cream for face, emollient, cetirizine, and erythromycin for pharyngitis. For the following week, methotrexate dose injection was given 0,5mg/BW/week (5,5 mg). There was no significant progression with these dose, so that dose was increase at 6 mg/week. The injection was followed by laboratory examination every 1 week after the injection. After about 3-month therapy, there was an improvement in skin condition. The scale became thinner, itchy and burning sensation was decreases, and there was no new macule. PASI score after 3-month therapy was 15 (Figure 2).

Discussion

Psoriasis is a chronic condition without a cure. For that reason, it can be extremely frustrating to treat and requires diligent compliance to a treatment regimen.[1,3,6] Anticipatory guidance and education of the patient and family is an important component in addition to the prescribed treatment regimen. Although complete clearance of the disease for a period of time is possible, that is not always necessary, as having a few asymptomatic lesions may be acceptable. In most children, particularly those with mild to moderate disease, topical skin-directed treatment is sufficient. Evidence on the efficacy and safety of systemic treatments in severe pediatric psoriasis is limited, and evidence-based recommendations are

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scarce.[1,2,6] The treatment approach is based primarily on guidelines for adult psoriasis, a few case series, expert opinions, or experience with systemic drugs acquired in other pediatric disorders. Systemic treatment was given to this patient because the child was categorized as severe psoriasis. Because the limitation of narrow band UVB tools and the patient's home was far away from the hospital, we just gave the methotrexate injection for this patient. The majority of systemic therapies used for childhood psoriasis are off-label drug therapies.[3,5]

Current conclusions and treatment algorithms on the treatment of childhood psoriasis are based on studies with low LOE. Furthermore, when choosing the best treatment option for the individual patient, several other issues must be taken into consideration e.g. age; type and severity of psoriasis; costs; practicality; side effects and comorbidities.[2-4,6] Despite the absence of scientific evidence (RCT), according to the experts' opinion methotrexate is considered to be the traditional systemic treatment of choice in children with severe, recalcitrant plaque and guttate psoriasis. Mild to severe nausea and vomiting occur in approximately 45% of patients treated with this drug. Methotrexate is presented as the conventional first-line of systemic treatment of psoriasis in children.[6,7] One study which study the effectiveness and safety of MTX in pediatric plaque-type psoriasis and its influence on quality of life (Qol) in daily clinical practice showed that PASI 75 was achieved in 4.3% and 33.3% of patients at week 12 and 24, whereas 40% and 28.6% reached PASI 75 at week 36 and 48. Median PASI and body surface area decreased from 10.0 (range 3.8–42.4) and 11.0 (range 3.5–72.0) at baseline to 4.3 (range 0–19.8) and 2.6 (range 0.0–39.6) at week 24, respectively. Physician Global Assessment improved significantly from 3.0 to 1.2 at week 24. A significant decrease in Children's Dermatology Life Quality Index from 9.0 to 3.8 at week 24 was found. As guidelines are lacking and most systemic treatments are not approved for use in children, treatment for pediatric psoriasis remains a challenge.[3,7-9]

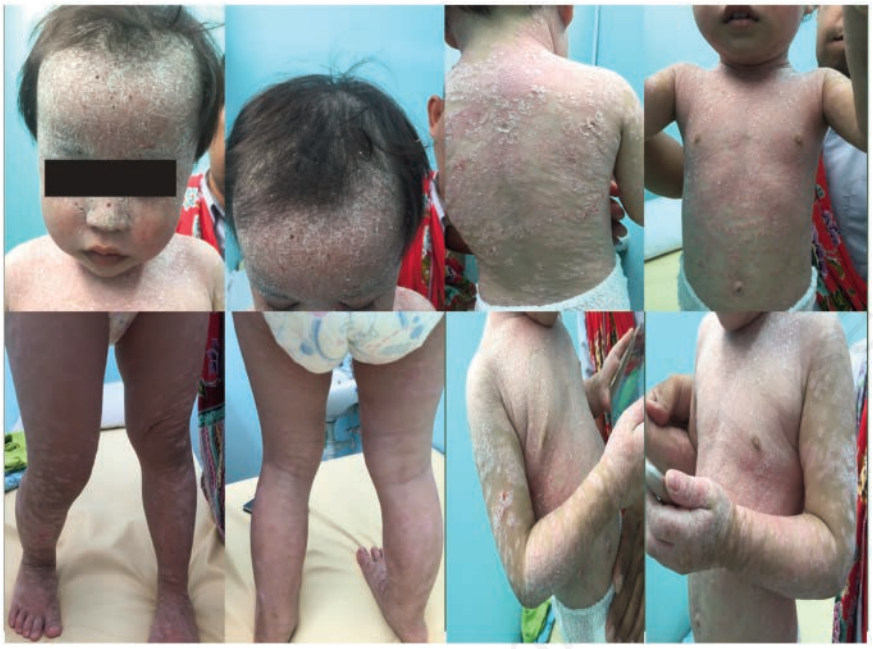

Figure 1. Clinical Presentation of the patient.

Figure 2. Clinical Presentation after 3-month of therapy.

Conclusions

Psoriasis begins in childhood in almost one-third of the cases and is increasing in prevalence and incidence. However, the evidence on treatment efficacy and safety is still limited, and long-term data in pediatric patients are lacking. In severe case of psoriasis in children like in this case, we could consider of giving systemic treatment like methotrexate for the treatment. Methotrexate treatment in this patient was showed a good progression with no serious side effect. A prospective, multicenter, international registry is needed to evaluate these treatments in a standardized manner and ultimately to develop international guidelines on pediatric psoriasis.

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