CASE REPORT

A 24-year-old girl presented with linear verrucous skin lesions since birth. Patient also had a history of neonatal seizure and cataract operation at the age of 3 month old. Patient was the product of a full-term uncomplicated pregnancy and delivery; her birth history was uneventful with no traumatic injury or hypoxia.

The skin lesion consisted of intensely pruritic erythematous verrucous plaques, arranged in a linear pattern following the lines of Blaschko on the left lower extremities and did not cross the midline (Fig. 1). Throughout the patient’s childhood, the lesions persisted and extended according to the patient’s body size. A skin biopsy from one of the verrucous lesions confirmed the epidermal nevus. No changes of epidermolytic hyperkeratosis were noted.

In addition to the skin lesion, patient also had frequent episodes of seizure attacks during childhood. Tracing through the patient’s childhood, she had mental retardation with autism and developmental delay. No other obvious deformities could be found in the orthopaedic, dental, ear, nose and throat or ophthalmologic examination. A chest X-ray and brain ultrasound examination did not reveal any specific abnormalities. Patient’s family history was unremarkable.

According to the parents, compliance of topical therapy was poor with 5-fluorouracil (5-FU) and locasalen (flumethasone-salicylic acid preparations) due to skin irritation. For the past 12 years, patient only used readily available skin care products. Over the years, no change in her skin condition was observed apart from increasing pruritus and hyperkeratotic lesions over the left lower extremity. As various topical treatments have failed to manage clinical symptoms, the patient was provided with acitretin (Neotigason®, Roche) with an initial daily dose of 25 mg and patient tolerated well to the treatment. After 5 weeks of treatment, there was a significant flattening of hyperkeratotic plaques without further progression of skin lesions (Fig. 2). Since then, patient’s skin lesion was controlled with acitretin and whenever the acitretin was ceased, patient’s symptoms flared within weeks.

Both the patient and mother were pleased with the symptomatic and cosmetic improvement. Currently, patient tolerates well from the oral acitretin with decreased hyperkeratosis and erythema along with decreased pruritic severity.

DISCUSSION

Epidermal nevus syndromes (ENS) are a group of rare congenital disorder characterized by localized or generalized epidermal nevi in association with neurological, skel-
ental, ocular and other cutaneous anomalies. Clinical presentations include mental retardation, seizures, and developmental delay.

Therapeutic options for the ENS are usually for cosmetic reasons, which include ablative laser therapy, cryotherapy, or chemical peelings. In literatures, there had been few cases of epidermal nevus syndromes treated with systemic retinoids.

We present a case of a 24-year-old female with epidermal nevus syndrome who experienced cosmetic improvement with systemic acitretin. This treatment modality represents a novel therapeutic approach to the management of this rare cutaneous abnormality.

The exact pathogenesis of the epidermal nevus syndrome is still unknown. Incidence of epidermal nevus varied from 1 to 3 per 1000 live birth; however, the exact incidence of ENS is unknown. Four distinct types of ENS have been described according to different types of epithelial nevi, which include linear sebaceous epidermal nevus, linear nevus comedonicus, linear epidermal nevus, and inflammatory linear verrucous epidermal nevus (ILVEN). Our patient had typical clinical manifestations of epidermal nevus syndrome, which include epidermal nevus associated with frequent seizure attack, mental retardation, and cataract.

Several different treatments for generalized epidermal nevus have been previously reported. Treatment had been focused on the cutaneous manifestation of epidermal nevus and can be challenging. These treatments aim to diminish the hyperkeratotic skin lesion. Potential treatment regimen include topical and intralesional steroids, topical calcitriol, podyphillin, topical 5-fluorouracil, dermabrasion, cryotherapy, CO2 laser therapy, and surgical excision. Surgical excision and CO2 laser give the best opportunity for complete remission, however may not be practical and is often limited by scar formation when treating extensive lesions.

Systemic retinoid had been the treatment of choice for many disorders of keratinization. Disorders such as pityriasis rubra pilaris, Darier’s disease, ichthyosiform disorders, palmo-planter keratoderma, and psoriasis have been reported to have good clinical responses from oral retinoid.

Isolated case reports have documented partial or complete improvement of generalized epidermal nevus from systemic retinoid with long term remission. Tuaskapan et al. described a 20-year-old male with unilateral verrucous epidermal nevus showing response to 75 mg/d of acitretin in 3 weeks. Similar
result was also presented by Renner et al., describing a 34-year-old female with widespread inflammatory linear verrucous epidermal nevus, resistant to topical steroid and urea-containing ointment. Subsequent use of oral acitretin at 20 mg decreased the hyperkeratotic lesion in 2 weeks.

The acute toxicities include mucocutaneous lesions (such as cheilitis and conjunctivitis) and hair loss; whereas chronic toxicities involve several organ systems, especially the skeletal (bony changes), hepatic, and cardiovascular systems (atherosclerosis). Long term use of oral acitretin on children, however, has been a major concern for most dermatologists. A retrospective study conducted by Lacour et al., reviewed all children inherited with disorders of keratinization receiving acitretin. Twenty eight children with cumulative dose of acitretin for more than 440 months of treatment had no major side effects. Another prospective series of study, administered acitretin to 10 children with ichthyosis at a dose ranging from 0.5~1 mg/day for a year, also concluded that the use of acitretin given at a correct dosage is secure and effective. They have evaluated the impact of long term use of acitretin on lipid metabolism, hepatic system and on bone. This study shows the beneficial effect of the drug and its minimal toxicity and justifies its use in children.

Our patient is presented with epidermal nevus syndrome with verrucous epidermal nevus and had been resistant to topical treatment including 5-FU and locasalen. However, patient had a good clinical response from the acitretin (25 mg/day) with decreased thickness and erythema of the epidermal nevus along with reduced severity of itching.

Epidermal nevus syndrome is usually benign in nature, however, cutaneous presentation of epidermal nevus in epidermal nevus syndrome is chronic and can be disfiguring if left untreated. Skin lesions can also become intensely pruritic with oozing discharge and complicated with secondary bacterial infection. Affected children are often physically and psychologically impaired. Our patient is presented with epidermal nevus syndrome with successful control of skin lesions from oral acitretin.

There are 3 points that are worthwhile to mention from the present case. First, the presence of extensive congenital epidermal nevus places patient at a greater risk of developing other abnormalities and requires a detailed clinical evaluation and long-term follow up. Second, systemic use of acitretin provides long-term remission and can be a realistic option for the treatment of extensive epidermal nevus. Lastly, due to the need of prolonged use of acitretin for the epidermal nevus syndrome, continued intense surveillance is recommended for patients requiring lifelong therapy.

REFERENCES
8. Brito Mde F: Evaluation of the side effects of