Progressing eczematous dermatitis in an infantile hemangioma with minimal or arrested growth treated with tacrolimus ointment

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INTRODUCTION

Infantile hemangioma with minimal or arrested growth is considered a subtype of infantile hemangioma because Corella et al[1] confirmed the expression of glucose transporter protein-1 on these vascular lesions. The main feature of infantile hemangioma with minimal or arrested growth is minimal to nonexistent proliferative ability.[1,2] It is also known as abortive hemangioma, precursor hemangioma, plaque-telangiectatic hemangioma, macular hemangioma with a port wine stain–like appearance, and reticular infantile hemangioma.[3,4] Infantile hemangioma with minimal or arrested growth is becoming an increasingly identified entity, with many reported case series[5,6] that elaborate on the clinical characteristics and association of this unique entity of infantile hemangioma. Regarding the associations, so far there is only 1 reported case of superimposed eczematous dermatitis associated with infantile hemangioma with minimal or arrested growth.[7] Here we describe a case of segmental mixed deep infantile hemangioma with a patch of minimal or arrested growth infantile hemangioma associated with eczematous dermatitis that progressed while the patient was receiving systemic propranolol and being managed with topical 0.03% tacrolimus ointment.

CASE REPORT

A 12-week-old Omani boy, full term, was treated at our pediatric dermatology/hemangioma clinic for a segmental mixed deep hemangioma located on the right upper eyelid and a telangiectatic patch on the right lateral side of the eyelid and eyebrow. When he was aged 1 month, the hemangioma was first noticed as a red patch that had a rapidly proliferating phase over the right eyelid, which caused significant ptosis. However, the lateral aspect of it did not show any growth. At presentation, the telangiectatic part had mild eczematous dermatitis (Fig 1). After a complete examination, no other eczematous lesions were noted and there was no family history of atopy. A syndrome of posterior fossa malformation, hemangioma, arterial malformation, coarctation of the aorta and cardiac abnormalities, and eye abnormalities was considered because of the segmental distribution of the hemangioma, but imaging study results, including magnetic resonance of the brain, angiography of the head and neck, echocardiogram, and ophthalmology evaluation, were all normal. He began receiving oral propranolol and reached a dose of 2 mg/kg/day. For eczematous dermatitis, he began receiving petroleum jelly–based ointment alone. The deep hemangioma part showed significant regression within a few weeks of propranolol initiation. However, the eczematous dermatitis progressed, although it was still confined to the telangiectatic part of the hemangioma and spared the rest of the face and body (Fig 2).

Topical tacrolimus 0.03% ointment was started for the eczematous patch. On follow-up after 1 month, the eczematous dermatitis was completely resolved (Fig 3).

DISCUSSION

Infantile hemangioma with minimal or arrested growth is a distinctive variant of infantile hemangioma

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Fig 1. A 12-week-old boy with segmental mixed deep hemangioma on the right upper eyelid and a telangiectatic patch with mild eczematous dermatitis on the right lateral side of the eyelid and eyebrow.

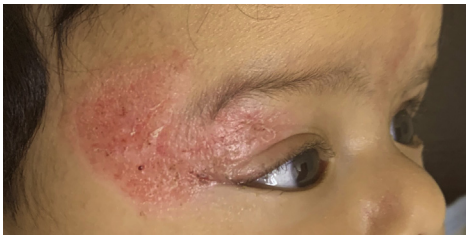

Fig 2. Four weeks after systemic propranolol, progression of the eczematous dermatitis was confined to the infantile hemangioma with minimal or arrested growth, with significant regression of the deep hemangioma.

that is characterized with minimum to absent proliferative growth phase, glucose transporter protein-1 expression, and the presence of an erythematous or reticulated patch that can be segmental or isolated, with more predilection for the lower body.[2,5] The most common complication reported in the literature is ulceration, which occurs more frequently in hemangiomas located in the perianal and genital areas.[2,5] The association with eczematous dermatitis has not been documented in the literature except for 1 case report that attributed the improvement of this reaction to systemic propranolol along with 2.5% hydrocortisone ointment.[7] Eczematous dermatitis association with vascular malformations like port wine stains and in nevus simplex are reported in the literature, which theorizes that the vascularity results in a vigorous inflammatory response and high cytokine release in the area, in addition to the extravasation of erythrocytes in the dermis, resembling stasis dermatitis.[8,9]

This case showed the progression of eczematous dermatitis during the first few weeks of systemic propranolol initiation, although the deep hemangioma was regressing. Because the eczematous dermatitis was located at the periorbital area, a steroid-sparing agent, topical tacrolimus 0.03% ointment, was added and showed complete

Fig 3. Three weeks after initiation of topical tacrolimus 0.03% ointment along with continuing systemic propranolol, there was complete resolution of the eczematous dermatitis, and most of the hemangioma had regressed into superficial fine telangiectasias.

resolution of the dermatitis within a few weeks. That the dermatitis progressed during the first few weeks of initiation of systemic propranolol, despite regression of the hemangioma, indicates that the theory of increased vascularity, causing inflammation and eczematous dermatitis, might not be the etiology alone; further studies are needed to identify the cause.

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