MICRO LABS LIMITED

DERMA TODAY

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Dear Doctor,

Greetings from Micro Labs. We are happy to bring you "Derma Today" which contains latest and interesting news in the field of Dermatology.

This issue contains:

1. Frequency & Clinical features associated with Eczema Herpeticum in hospitalised children with presumed atopic dermatitis Skin infection.
2. Today's Pick: Sunless tanner may cause Hyperpigmented patches.

Should you require any article or, medical information, please feel free to contact us medicalservices@microlabs.in

Looking forward to your valuable feedback.

Best Regards,

Medical Team, Micro Labs Limited.

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Frequency & Clinical features associated with Eczema Herpeticum in hospitalised children with presumed atopic dermatitis Skin infection

Background:

Atopic dermatitis (AD) is a chronic inflammatory condition of the skin. Factors precipitating AD are genetic alterations, immune dysregulation and skin barrier dysfunction. Some patients may have disturbed skin integrity due to alterations in filaggrin genes, which allows moisture to escape but microbes and allergens to enter.

Barrier dysfunction in atopic paediatric population makes them prone to viral and bacterial infection thus worsening inflammation and aggravating the disease condition.

Eczema herpeticum (EH) is caused by herpes simplex virus (HSV) 1 or 2 in patients suffering from Atopic dermatitis. This might cause disseminated infections.

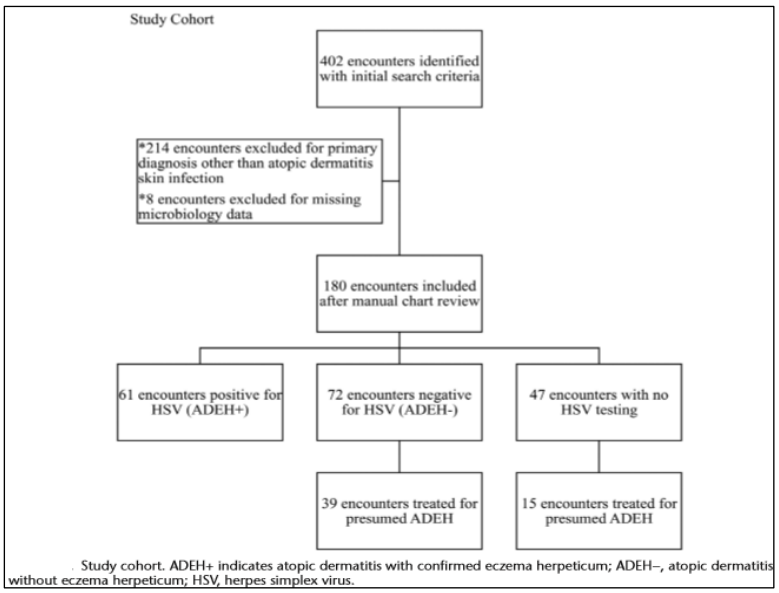
EH hospitalization is commonly due to early onset and severe AD, large surface area involvement, history of EH and presence of fever or other systemic symptoms. EH patients might also have increased risk of bacterial infection.

Objective:

A retrospective cohort study was undertaken to estimate the frequency and associated clinical features in confirmed cases of Eczema herpeticum (EH) in children who were hospitalized with the probable diagnosis of AD skin infection. In the study the frequency of codetection for potentially pathogenic bacteria (mainly Staphylococcus Aureus (SA) and group A streptococcus (GAS)), were also evaluated.

Methods:

A retrospective review was conducted on clinical data of children upto 18 years of age. These children were admitted to hospital: Children's Healthcare of Atlanta system with probable diagnosis of Atopic Dermatitis with presumed skin infection between January 2004 & December 2018. Those children who had an alternate primary diagnosis or did not have their microbiologic data were excluded from the retrospective study. Encounters with herpes simplex virus testing were identified as AD with EH (ADEH+) or without (ADEH−). Encounters with bacterial skin culture growth were identified either as Staphylococcus Aureus or, group A streptococcus (GAS)



Study cohort. ADEH+ indicates atopic dermatitis with confirmed eczema herpeticum; ADEH−, atopic dermatitis without eczema herpeticum; HSV, herpes simplex virus.

Results:

Out of 180 Atopic dermatitis encountered suspected skin infection, 133 or, 74% were tested for herpes simplex virus.

Clinical findings in 61 patients with Atopic dermatitis & Eczema herpeticum (ADEH+ status) were fever on admission (59% vs. 32% in ADEH−; P = 0.002), rash on the neck (30% vs. 13%; P = 0.015) and vesicular rash (70% vs. 49%; P = 0.011).

Study participants in the ADEH+ group was found to have longer stay in the hospital, when it is compared with participants in the ADEH− group [median 4 days vs. 3 days ; P < 0.001]. Group A streptococcus (GAS) was found in 1 participant who had Atopic dermatitis with Eczema herpeticum (ADEH+) which is about 2% when compared with 15 of the Atopic dermatitis without Eczema herpeticum (ADEH−) participants which is about 26%, P < 0.001.

TABLE 1. Demographic and Clinical Variables in Confirmed ADEH+ vs. ADEH− Encounters

	ADEH+ (n = 61)	ADEH− (n = 72)	*P*
Age, months; median (IQR)	19 (11–60)	24 (15–60)	0.300
Sex, male, n (%)	34 (56)	46 (6%	0.339
Race (%)			
African American	29 (47)	38 (53)	0.114
Caucasian	17 (28)	26 (36)	
Other	15 (25)	8 (11)	
Food allergy, n (%)	37 (61)	35 (49)	0.165
History of asthma, n (%)	10 (16)	19 (26)	0.152
History of HSV, n (%)	5 (8)	9 (13)	0.405
Topical steroid use, n (%)	35 (57)	49 (68)	0.250
Oral steroid use, n (%)	11 (18)	9 (13)	0.384
Fever at home, n (%)	43 (70)	43 (60)	0.195
Fever on admission, n (%)	36 (59)	23 (32)	0.002
Rash on face, n (%)	53 (87)	55 (76)	0.123
Rash on neck, n (%)	18 (30)	9 (13)	0.015
Rash on trunk, n (%)	29 (48)	51 (71)	0.006
Rash on extremities, n (%)	34 (56)	65 (90)	0.000
Vesicular rash, n (%)	43 (70)	35 (49)	0.011
Pustular rash, n (%)	18 (30)	12 (17)	0.077
Punched-out rash, n (%)	26 (43)	32 (44)	0.833
Papular rash, n (%)	28 (46)	36 (50)	0.637
Crusted rash, n (%)	36 (59)	47 (65)	0.458
Hospital LOS, days, median (IQR)	4 (3–5)	3 (2–3)	0.000

IQR indicates interquartile range.

TABLE 2. *Staphylococcus aureus* and Group A Streptococcus Skin Growth in Confirmed ADEH+ vs. ADEH− Encounters

	ADEH+ (n = 51)	ADEH− (n = 58)	*P*
MRSA only, n (%)	10 (20)	1 (2)	0.003
MSSA only, n (%)	22 (43)	20 (34)	0.431
GAS only, n (%)	1 (2)	3 (5)	0.621
SA + GAS, n (%)	0 (0)	12 (21)	0.000
Total, n (%)	33 (65)	36 (62)	0.840

MRSA indicates methicillin-resistant *Staphylococcus aureus*.

CONCLUSION:

Patients who are hospitalized with refractory Atopic dermatitis (AD) along with a suspected skin infection were found to have a higher frequency of Atopic dermatitis with Eczema herpeticum (ADEH+) diagnosis.

These patients who had Atopic dermatitis with Eczema herpeticum (ADEH+) most commonly presented with fever at their admission in the hospital, rash on the neck and a vesicular rash when compared with Atopic dermatitis without Eczema herpeticum (ADEH−) participants.

Both groups had similar frequency of Staphylococcus Aureus skin growth.

The ADEH− group also revealed a higher frequency of GAS skin growth when compared with the ADEH+ group.

Doctors should have a high index of suspicion in all patients who are admitted with probable diagnosis of Atopic dermatitis (AD) skin infection.

Hemani SA. Et al. The Pediatric Infectious Disease Journal. 2020 Apr 1;39(4):263-6.

Today's Pick

Sunless tanner may cause Hyperpigmented patches.

A 20-year-old female presented for evaluation of hyperpigmented patches on the dorsum of her hands of several months. There is no history of skin diseases in the patient. On examination ill-defined hyperpigmented patches on the dorsum of fingers without associated scale or erythema was noted. She had a very old history of Hodgkin lymphoma. She was treated with chemotherapy and was on remission for 5 years prior to this. She was referred by her hematologists for evaluation.

A punch biopsy of one of the patches was obtained to look for the origin of the hyperpigmentation. Histopathology revealed hyperpigmented parakeratosis, lentiginous hyperplasia, pigmentation of the stratum corneum with black pigment, which stained positive with Fontana-Masson.

Patient revealed that she had used a sunless tanner 3 months prior to the development of the pigmented patches. She also used urea cream for exfoliation, which resulted in lighter but apparent hyperpigmentation at follow-up 6 months after the initial presentation.

Reports have shown that the use of sunless tanners containing DHA can alter the appearance of melanocytic lesions clinically and has caused pseudochromhidrosis on the palms.

This case reealed a potential scope for persistent hyperpigmentation months after use of sunless tanners containing DHA.

Although a skin biopsy may not be strictly indicated, it may aid diagnosis, especially when the history is unclear.

Clinicians should be aware that the US Food and Drug Administration recommends avoiding contact with mucous membranes when applying products containing DHA and also recommends use of a test spot prior to treating the entire body with the product.

Navid Farahbakhsh et al. *Cutis*. 2020 April;105(04):E25-E27