

DERMATOPATHOLOGY UNIT

UPP | Department of Dermatology

UPMC Dermatopathology "Case of the Month" Presentations

UPP - Department of Dermatology, Dermatopathology Unit

5230 Centre Avenue (412) 623-2614

Pittsburgh, PA 15232 (412) 682-6450 FAX

Case Authors: *Angela Sanfilippo MD., Matthew Zirwas MD., Drazen Jukic MD*

APRIL 2005 CASE OF THE MONTH

CLINICAL FINDINGS

Clinical History

The patient is a 64-year-old African American male with a past medical history significant for hypertension and hypercholesterolemia. He was admitted for bilateral lower extremity joint pain and weakness thought to be secondary to Guillain-Barre syndrome. A few days into his hospitalization, the patient developed a rash which began on his arms and hands and spread to involve his chest, abdomen, back, and upper thighs. The patient denied any pruritus or pain with the rash but did describe a faint burning sensation at times. The patient denied a history of similar symptoms. He stated that he had been infected with varicella zoster virus as a child but had never developed shingles. He denied any new contacts and denied starting any new medications. He also denied any recent travel.

Physical exam

On exam, the patient was a bed-bound African American male in no apparent distress. A full mucocutaneous skin exam was performed and revealed a diffuse rash consisting of discrete vesicles on an erythematous base. The rash involved the dorsal hands, bilateral arms, palms, abdomen, chest, axillae, back, and upper thighs. There was no involvement of the soles or mucous membranes.

Based on clinical appearance and history, the patient was presumed to have disseminated herpes zoster. Other items in the differential included allergic contact dermatitis, bullous id reaction, and dyshydrotic dermatitis/atopic dermatitis. Two biopsies were obtained from the patient's right shoulder, one for routine hematoxylin and eosin and one for direct immunofluorescence. He was started on a treatment regimen of Valtrex 1000mg po tid for presumed disseminated zoster and showed little improvement.

[**GO TO FIGURE AND IMAGE REVIEW PAGE**](#)

[**GO TO DISCUSSION AND DIAGNOSIS PAGE**](#)

[**Dermatopathology Homepage**](#) 

DERMATOPATHOLOGY UNIT

UPP | Department of Dermatology

UPMC Dermatopathology "Case of the Month" Presentations

UPP - Department of Dermatology, Dermatopathology Unit

5230 Centre Avenue (412) 623-2614

Pittsburgh, PA 15232 (412) 682-6450 FAX

Case Authors: Angela Sanfilippo MD., Matthew Zirwas MD., Drazen Jukic MD

APRIL 2005 CASE OF THE MONTH

Figures & Images

1. Click on the Figure number you wish to review.
2. Click on the image to enlarge



Bullous tinea - arm



Bullous tinea - hand



Bullous tinea - hand



Bullous tinea - palm

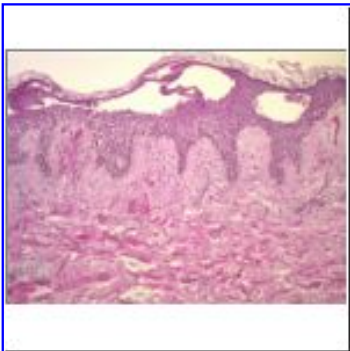


Figure 1

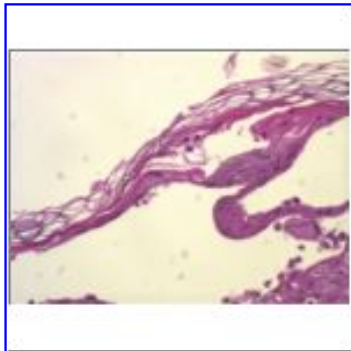


Figure 2

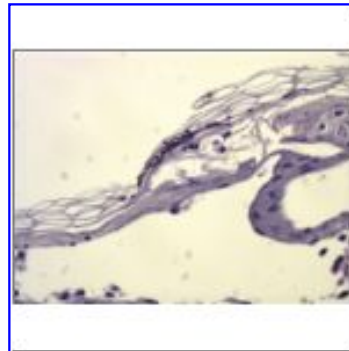


Figure 3

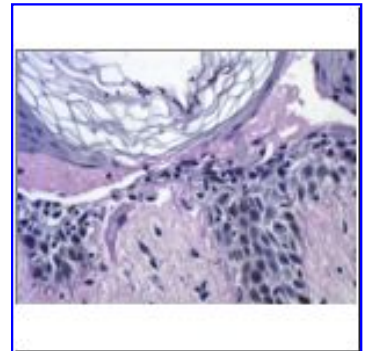


Figure 4

Bullous dermatomycosis figure legend:

Figure 1. Bullous dermatomycosis, H&E stained section, low power. Note the subcorneal bullae and spongiosis in the epidermis and sparse infiltrate.

Figure 2. High power view of bulla, H&E stained section, illustrating spores in the stratum corneum.

Figure 3. High power view of PAS-D stain highlighting the presence of spores and hyphae in the stratum corneum.

Figure 4. High power view of PAS-D stain highlighting the presence of spores and hyphae in the stratum corneum.

[GO TO DISCUSSION AND DIAGNOSIS PAGE](#)

DERMATOPATHOLOGY UNIT

UPP | Department of Dermatology

UPMC Dermatopathology "Case of the Month" Presentations

UPP - Department of Dermatology, Dermatopathology Unit

5230 Centre Avenue (412) 623-2614

Pittsburgh, PA 15232 (412) 682-6450 FAX

Case Authors: *Angela Sanfilippo MD., Matthew Zirwas MD., Drazen Jukic MD*

APRIL 2005 CASE OF THE MONTH

DISCUSSION & DIAGNOSIS

Diagnosis

Bullous Dermatomycosis

Discussion

This case represents an interesting example of a clinical picture that was not suggestive of the final diagnosis. The patient's clinical findings were very consistent with varicella zoster virus or a "dewdrops on a rose petal" appearance, however, the patient reported a previous history of varicella zoster as a child. Bullous dermatomycoses are often misdiagnosed as allergic contact dermatitis, or when found on the hands or feet, as dishydrotic eczema. The fact that the patient's rash resolved with Diflucan and ketoconazole supports the diagnosis of bullous dermatomycosis.

Dermatomycosis refers to any fungal infection of the skin and may be caused by dermatophytes, yeast, or other fungi. The dermatophytes consist of three genera of fungi: *Epidermophyton*, *Trichophyton*, and *Microsporum*; these are capable of colonizing keratinized tissue such as the stratum corneum, hair, and nails. The dermatophytes are grouped according to their natural reservoir: anthropophilic, zoophilic, and geophilic (human, animals, and soil.) Anthropophilic fungi tend to produce the least vigorous host response and zoophilic fungi the greatest. Tinea corporis can be caused by any dermatophyte, however, the most

common causes are *Trichophyton mentagrophytes*, *Trichophyton rubrum*, and *Microsporum Canis*. Bullous tinea corporis presents as spongiotic or subcorneal vesicles and pustules which may be herpetiform and is typically caused by *T. rubrum* in contrast to bullous tinea pedis which is most commonly caused by *T. mentagrophytes*. *M. canis* less commonly causes a bullous tinea corporis and manifests as annular lesions with a raised papulovesicular border and central clearing. Diagnostic procedures are typically direct microscopy of potassium hydroxide (KOH) preparations, fungal cultures, and biopsy.

Pathological findings can vary according to the clinical variant but usually include red hyphae within the stratum corneum on PAS stain; fungi can also manifest as arthrospores, yeast forms, or pseudohyphae. Hyphae grow by branching and may form matlike structures called mycelia. Hyphae are basophilic on hemotoxylin and eosin and stain black with methenamine silver. The fungal polysaccharides are diastase resistant, unlike glycogen, and this can be useful in distinguishing glycogen granules from fungal spores. There may be a mixed dermal inflammatory infiltrate although organisms do not typically extend into the dermis unless there is follicular rupture. The intensity of the tissue reaction can range from almost undetectable to a very exuberant or chronic spongiotic-psoriasiform pattern.

Treatment consists of topical or systemic antifungals.

References

1. El-Segini Y, Schill WB, Weyers W. Case report. Bullous tinea pedis in an elderly man. *Mycoses*. 2002 Nov;45(9-10): 428.
2. Kato T, Maruyama R, Nishioka K, Sano T. Tinea corporis due to *Microsporum canis* from an asymptomatic dog. *J Dermatol*. 1991 Jun;18(6):356-9.

[Return to Clinical Findings](#)

[Return to Figures & Images](#)