Burrowing Bugs in a 5 week-old that “Mite” be Difficult to Diagnosis

Farbod Bahadori-Esfahani,MD
Pediatrics LSU Health Shreveport
Louisiana Chapter AAP
Red Stick Potpourri

Disclosure

I have nothing to disclose regarding this topic

Objectives

Learners will be able to perform an appropriate history and physical exam on an infant with a pustular eczematoid rash

Learners will be able to develop an appropriate differential diagnosis of an infant with an eczematoid rash

Learners will be able to better treat an infection with a pustular rash

Case

A 5 week old Hispanic male presented to his pediatrician’s office for a new onset rash without a fever. Patient was seen one week prior by the same pediatrician, at that time the patient had no rash. The rash first appeared on the left lower extremity as small blisters that subsequently spread to the right upper extremity.

Lesions were noted to increase in size and appeared vesicular without expression of fluid.

Desitin cream had been applied on the rash for 3 days without much improvement.

Past Medical History

Birth: Born at 38 weeks to a G4P4 mother via uncomplicated spontaneous delivery. Uncomplicated Newborn Stay

Infant is mainly breastfed, spending 15 minutes on each breast every 3 hours with supplemental formula, he has had normal stool and urine output mother notes that patient has been more restless since the onset a the rash

Maternal History: Routine prenatal care, including all vaccinations, no reported history of any STI, genital lesions or infections during pregnancy

Social History: Lives at home with mother and father and 3 siblings who are all up to date on their vaccinations, No pets, No known farm animal contacts or recent zoo visits. No recent swimming or travel.

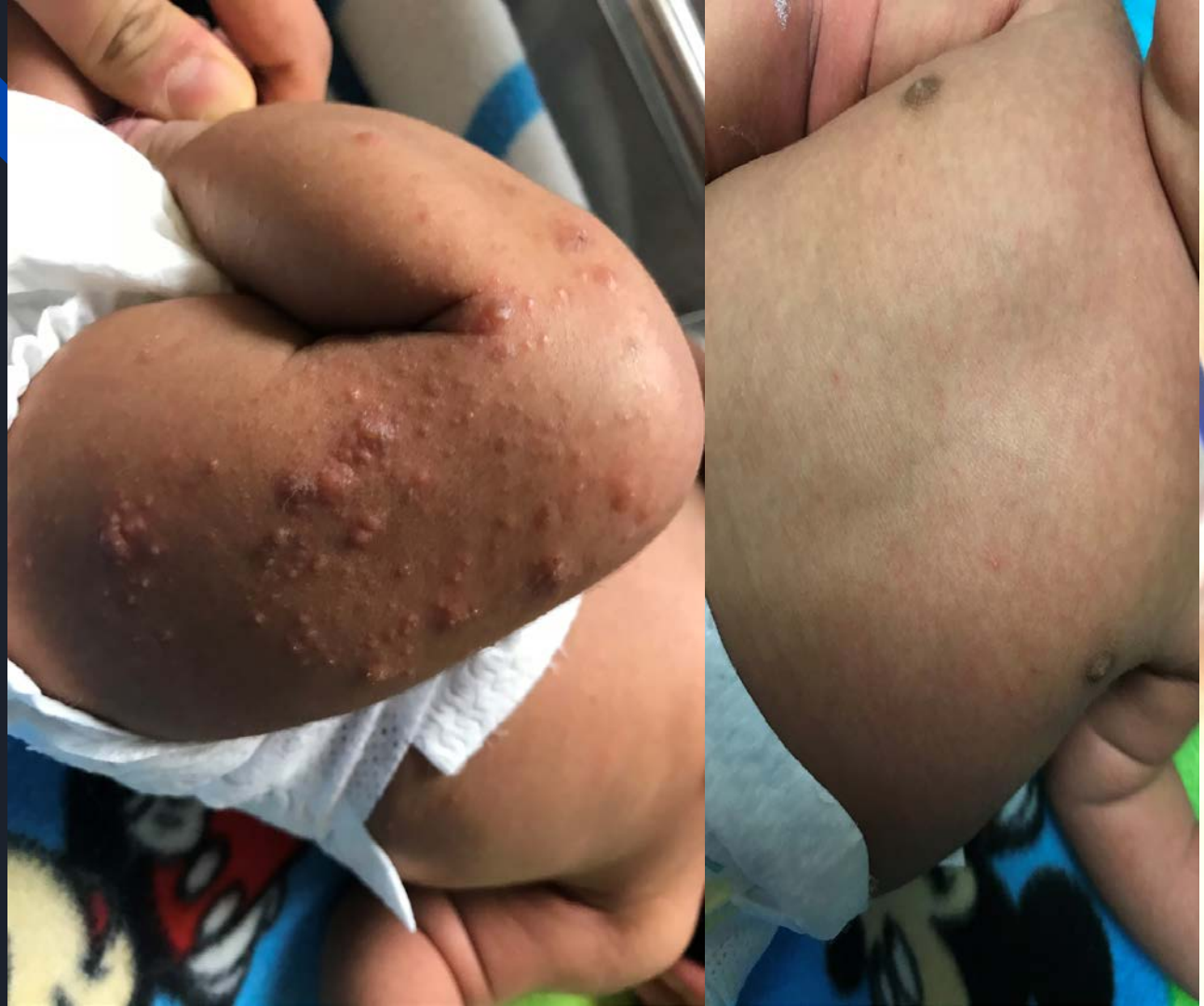
Immunizations: All family members are up to date. Infant has received his first Hep B vaccine

Hospital Course

At admission the infant appeared well-nourished, alert and consolable with vitals signs within normal limits

Both lateral left leg and right arm had multiple excoriated, erythematous 2-4 mm vesicles and papules in varying stages of development with a few lesions scattered on the abdomen and back. The palms, face, scalp, and genital region were spared.

Pediatric Infectious disease was consulted



Differential Diagnosis

- Herpes Simplex Virus
- Scabies
- Erythema Toxicum Neonatorum
- Impetigo
- Bed Bugs
- Infantile Acropustulosis
- Eosinophilic Pustular Folliculitis of Infancy
- Candidiasis

Hospital Course

A full workup for a serious bacterial infection including a Lumbar Puncture and HSV PCR of the blood was performed.

The patient was empirically started on
Acyclovir 20 mg/kg q8h
Gentamicin 2.5 mg/kg q12h
Vancomycin 20 mg/kg q8h

Lumbar Puncture was attempted but was unsuccessful on the day of admission

The following morning after the patient had been hydrated with IV fluids, another Lumbar Puncture was attempted was successful

Lab Results

WBC 14.01

Segs Relative 19%	Segs Absolute 2.662
Bands Relative 2%	Bands Absolute 0.280
Lymphocytes Relative 61%	Lymphocytes Absolute 8.546
Monocytes Relative 11%	Monocytes Absolute 1.541
Eosinophils Relative 7%	Eosinophils Absolute 0.981

RBC Morphology
Polychromia 1+
Schistocytes 1+
Marcocytes +1
Hypochromia +1
Ovalocytes +1

Red Blood Cell 3.11
Hemoglobin/Hematocrit 10.4/30.3
Platelet Cnt 420
BCx and UrCx: NGT x2 days
CRP: <0.29 Procal: <0.05

Lab Results

Lumbar Puncture
Nucleated Cells 509 /mm3
RBC, 172,000 /mm3
Poly 46%
Lymphs 41%
Mono 12%
Esino 1%
CSF character was bloody

CSF Protein 285
CSF Glucose 48
CSF LDH 59
CSF VDRL Nonreactive

Herpes Virus PCR Blood
No HSV Type 1 or 2 Detected
Herpes Virus CSF PRC
No HSV Type 1 or 2 Detected

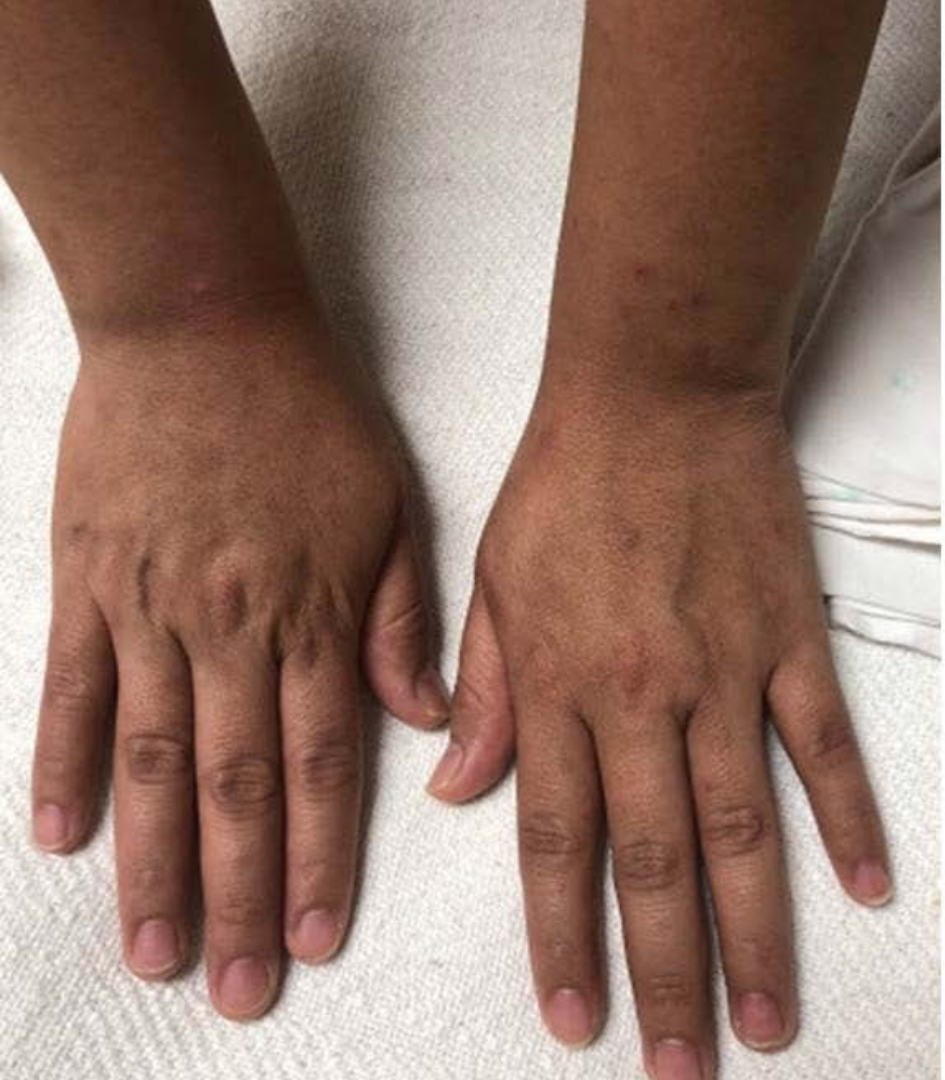
Acyclovir was stopped
Continued on Gentamicin and Vancomycin

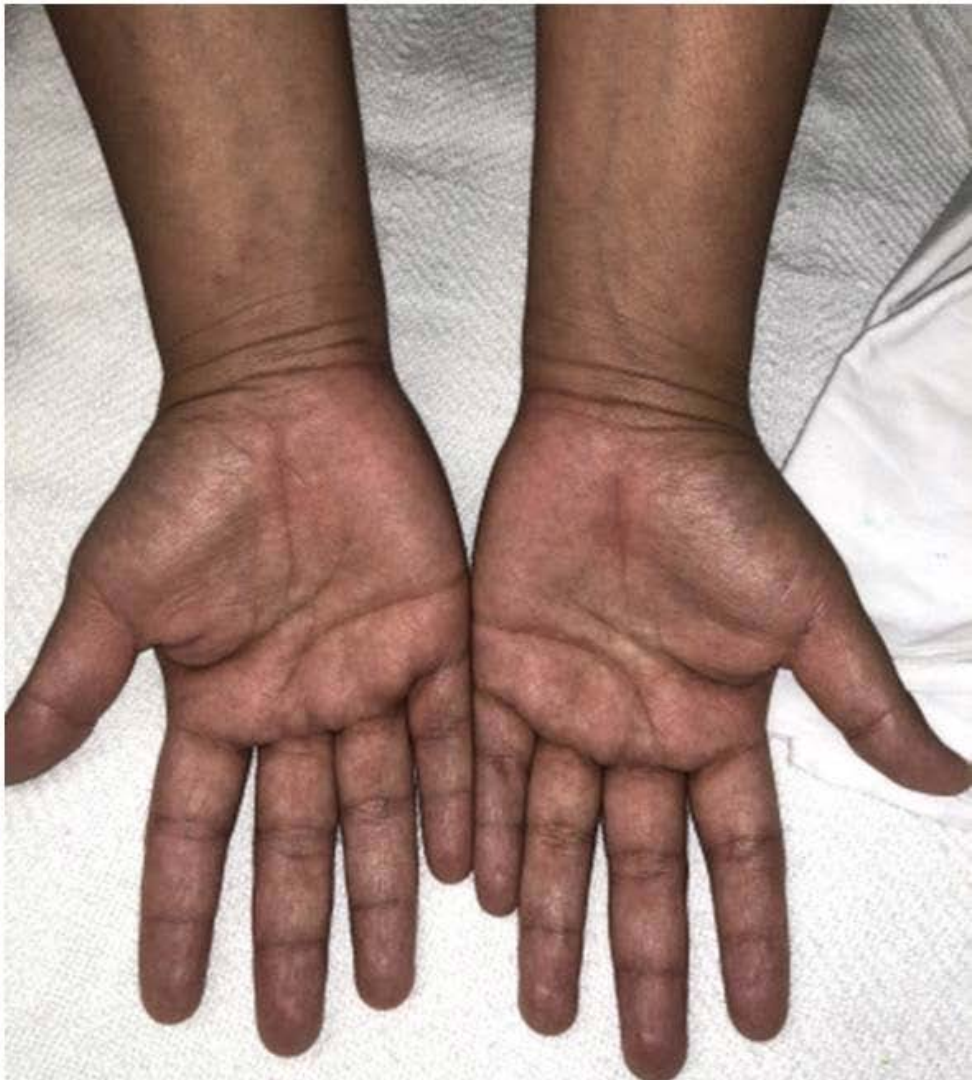
Hospital Course

On Day 3 it was incidentally noted that the mother had 3-4 pruritic 2 mm papules with surrounding erythema on the L forearm.

Mother stated these lesions first appeared during her first trimester of her pregnancy, after she spent a week in a local hotel room

Mother was given a topical steroid cream which symptomatically helped but the lesions never completely resolved



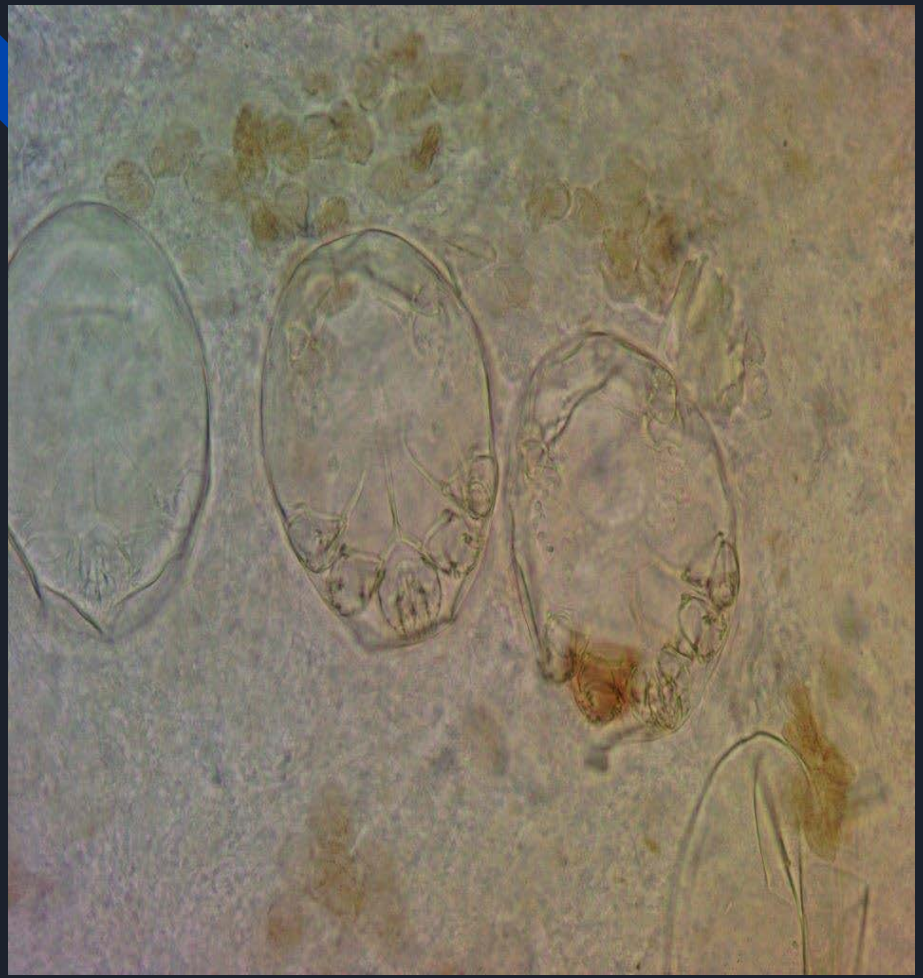


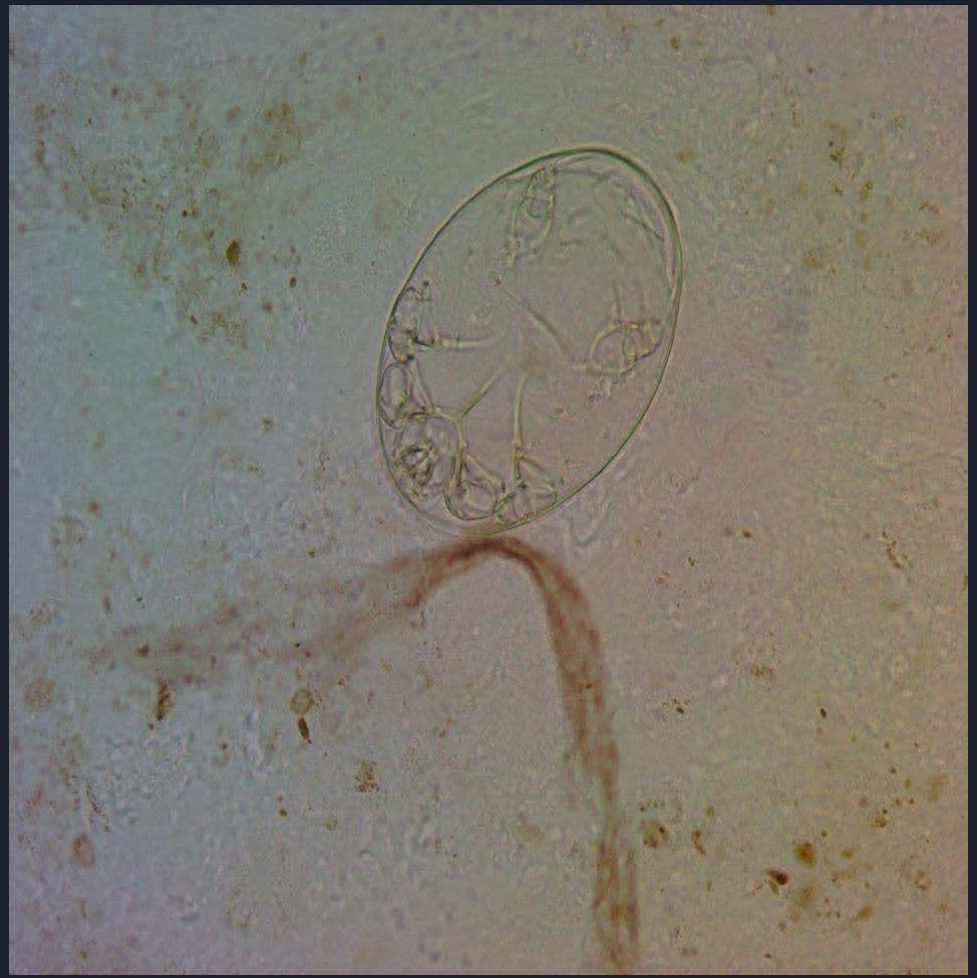
Hospital Course

Patient remained afebrile with good PO intake

Gentamicin and Vancomycin were discontinued after 48 hours

On hospital day three, skin scraping samples were taken at 6 different locations.



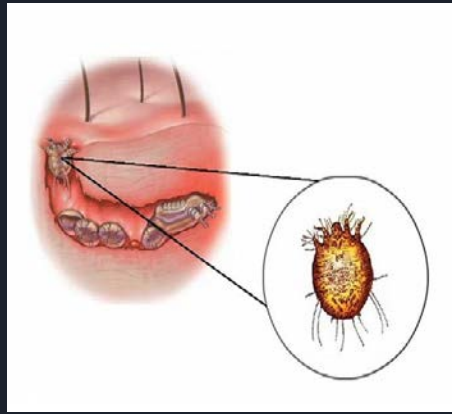


Sarcopetes Scabiei, Hominis

Scabies is a contagious parasitic skin condition caused by the mite *Sarcoptes Scabiei var hominis*. The mites burrow into skin and the females lay their eggs which later hatch and will go into adult mites.

Female mites deposit 1-3 eggs per day, in about 3 days the eggs hatch as larvae. The larvae then digs into new burrows and mature in about 4 days. This life cycle will continue until treated.

Transmission is primarily by skin to skin contact with persons carrying the scabies mites. It can be also transmitted by sharing clothing or bedding with a person who has the mites. Mites cannot survive longer than 3 days without a human host



Distribution of Affected Areas

Older Children/Adults
- Erythematous papular eruptions
- Interdigital folds, flexor aspects of wrists, anterior axillary folds, waistline, buttocks

Less than 2 year olds
- Vesicular Lesions
- Scalp, face, neck, palms and soles
- Infants : Pruritic papules (pustules predominantly in the distal portions of the extremities with fewer lesions on the torso)

Symptoms are primarily due to hypersensitivity reaction

- Incubation period : 4-6 weeks
- Intense itching, worse at night
- May continue for weeks following successful treatment
- Secondary bacterial infections can occur

Diagnosis

Most cases of scabies can be diagnosed by history and a good physical examination. No blood test is needed

The only definitive way to diagnose scabies is with skin scrapings.

A drop of mineral oil is placed on top of the affected skin and on a sterile scalpel. The scalpel is then used to scrape the area for tissue samples, and the material is examined under a microscope to check for mites or eggs.

This test has a low sensitivity so even if the test is negative the provider may still recommended treatment

Treatment

Topical 5% Permethrin Cream is suggested for infants greater than 2 months of age

Apply to clean dry skin from the top of the head to the bottom of the feet especially between the fingers and toes. The topical cream is left on the skin for 10-12 hours and then washed off in the shower. Often applied at bedtime and then washed in the morning

Prophylactic treatment for all household members at the same time

Bedding and clothing worn next to the skin < 3 days before initiation of therapy should be laundered in hot water and hot drying cycle

Anything that cannot be washed should be stored for at least one week

References

https://web.stanford.edu/group/parasites/ParaSites2009/LeighaWinters_Scabies/LeighaWint ers_Scabies.htm

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Thank you