Molluscum Contagiosum

Basic Dermatology Curriculum

Last updated November 25, 2013
The purpose of this module is to help medical students develop a clinical approach to the evaluation and initial management of patients presenting with molluscum contagiosum.

By completing this module, the learner will be able to:

• Identify and describe the morphology of molluscum contagiosum
• List treatment options for molluscum contagiosum
• Provide patient education about molluscum contagiosum
• Determine when to refer a patient with molluscum contagiosum to a dermatologist
Case One

Susie
Case One: History

- **HPI:** Susie, an 8-year-old girl, is brought to clinic by her frantic mother. The mother reports a “rash” that has been present for eight weeks and is spreading. Her pediatrician gave her an antifungal cream which they applied twice a day for two weeks without improvement. She scratches the areas often.
- **PMH:** History of eczema which has been well controlled in the last couple years. History of asthma.
- **Allergies:** Grasses and molds. No known drug allergies.
- **Medication:** Antifungal cream, 2.5% hydrocortisone cream, albuterol inhaler as needed
- **Family history:** Mother has sinus problems; no one else has a rash
- **Social history:** Lives with parents and a 12-year-old brother; dog in the home; swims often
- **ROS:** Negative
Case One: Skin Findings
Case One: Question 1

How would you describe the papules that are present?

a. Dome-shaped, pearly, and umbilicated
b. Scaly

C. Thick and endophytic
d. Vesicular (small blisters)
Case One: Question 1

**Answer: a**

How would you describe the papules that are present?

- a. Dome-shaped, pearly, and umbilicated
- b. Scaly
- c. Thick and endophytic
- d. Vesicular (small blisters)
Case One: Question 2

What should you tell the mother?

a. Susie might have a malignancy because the cream should have improved the dermatitis
b. They must be more compliant with Susie’s medications
c. This is a bacterial infection
d. This is caused by a virus which is treated with acyclovir
e. This is not uncommon in children and she may need treatment if the lesions do not clear on their own
Case One: Question 2

Answer: e

What should you tell the mother?

a. Susie might have a malignancy because the cream should have improved the dermatitis
b. They must be more compliant with Susie’s medications
c. This is a bacterial infection
d. This is caused by a virus which is treated with acyclovir
e. This is not uncommon in children and she may need treatment if the lesions become symptomatic
Case One: Question 3

What causes these lesions?

a. Bacteria
b. Fungus
c. Parasite
d. Virus
Case One: Question 3

**Answer:** d

What causes these lesions?

- a. Bacteria
- b. Fungus
- c. Parasite
- d. Virus
What type of virus causes molluscum contagiosum?

a. A herpes virus
b. A pox virus
c. Human immunodeficiency virus
d. Human papillomavirus
e. Varicella-zoster virus
Case One: Question 4

Answer: b

What type of virus causes molluscum contagiosum?

a. A herpes virus
b. A pox virus
c. Human immunodeficiency virus
d. Human papillomavirus
e. Varicella-zoster virus
Molluscum Contagiosum

- Molluscum contagiosum (MC) is a benign, usually asymptomatic viral infection of the skin with no systemic manifestations.
- Usually is characterized by 2 to 20 discrete, 5-mm-diameter, flesh-colored to translucent, dome-shaped papules, some with central umbilication.
- Lesions commonly occur on the trunk, face, and extremities but are rarely generalized.
Back to Case One
Case One: Question 5

Susie’s mother is relieved to have a diagnosis but now wants to hear about treatment. What do you tell her?

a. Cantharidin
b. Cryotherapy
c. Curettage
d. No treatment because it may resolve on its own
e. All of the above are options
Case One: Question 5

Answer: e

Susie’s mother is relieved to have a diagnosis but now wants to hear about treatment. What do you tell her?

a. Cantharidin (topical keratolytic agent)
b. Cryotherapy (freezing with liquid nitrogen)
c. Curettage (scraping out tissue with a curette)
d. No treatment because it may resolve on its own (infection is usually self-limited and spontaneously resolves after a few months in immunocompetent patients)
e. All of the above are options
Case One: Question 6

You recommend no treatment as an initial trial. What fact(s) would support that decision?

a. Most children will clear eventually
b. She attends day care
c. She is pruritic
d. She has atopic dermatitis
Case One: Question 6

Answer: a
You recommend no treatment as an initial trial. What fact(s) would support that decision?

a. Most children will clear eventually
b. She attends day care
c. She is pruritic
d. She has atopic dermatitis
Case One: Question 7

Susie’s mother wants a “quick fix.” If this is “some kind of wart,” she wants “those things frozen.” You explain the potential side effects of cryotherapy may include:

a. Blisters
b. Color change
c. Pain
d. Scarring
e. All of the above
Case One: Question 7

Answer: e
Susie’s mother wants a “quick fix.” If this is “some kind of wart,” she wants “those things frozen.” You explain the potential side effects of cryotherapy may include:

a. Blisters
b. Color change
c. Pain
d. Scarring
e. All of the above
Treatment Principles

- There is no consensus on the management of MC in children and adolescents
- Therapy may be warranted to:
  - Alleviate discomfort, including itching
  - Reduce autoinoculation
  - Limit transmission of the virus to close contacts
  - Reduce cosmetic concerns
  - Prevent scarring
  - Prevent secondary infection
- Genital lesions in sexually active patients should be treated to prevent spread to sexual contacts
Treatment Options

First-line treatments include:

- Cantharidin – a vesicant that causes blistering on the applied area (not painful when applied, but can be uncomfortable when blisters occur)
- Curettage – scraping to remove
- Cryotherapy – liquid nitrogen therapy
Treatment Options

Treatment considerations

- Cantharidin – may result in excessive blistering, pain, itching, burning, and hypo- or hyperpigmentation
  - Use is limited to in-office treatment
  - Must be obtained through compounding pharmacy
  - Avoid use on the face and intertriginous areas
  - Treat only a few lesions at a time until patient’s blistering reaction is determined
- Curettage – uncomfortable for small children, and may result in scars
- Cryotherapy – may result in blisters, color change, pain, and scarring

- Spontaneous resolution, in addition to all of the treatments above, can result in small depressed scars.
As you pause to consider the potential treatment, you review the facts that contributed to Susie having molluscum. The following may contribute:

a. Being a swimmer
b. Having a dog
c. Her atopy
d. a and b
e. a and c
Case One: Question 8

Answer: e

As you pause to consider the potential treatment, you review the facts that contributed to Susie having molluscum. The following may contribute:

a. Being a swimmer
b. Having a dog
c. Her atopy
d. a and b
e. a and c
Molluscum Transmission

- Spread via skin-to-skin contact, fomite exposure, and autoinoculation
- Associated with public water exposures (pools, bath houses, hot tubs)
- Wrestlers are particularly at risk because of prolonged skin contact and friction
- MC should not prevent a child from attending child care or school or from swimming in public pools
- To prevent transmission, lesions not covered by clothing should be covered by a watertight bandage. The bandage should be changed daily or when soiled.
Back to Case One
Susie’s mother now wants to know for sure if this is molluscum. You declined to biopsy because of the typical appearance but she leaves your office and finds a physician who does a biopsy. What would the characteristic histopathology show?

a. Budding yeast  
b. Henderson-Patterson bodies  
c. Multi-nucleated giant cells  
d. Necrotic keratinocytes  
e. Subepidermal blister
Case One: Question 10

Answer: b

Susie’s mother now wants to know for sure if this is molluscum. You declined to biopsy because of the typical appearance but she leaves your office and finds a physician who does a biopsy. What would the characteristic histopathology show?

a. Budding yeast (seen in candida infections)

b. **Henderson-Patterson bodies**

c. Multi-nucleated giant cells (seen in herpes virus infections)

d. Necrotic keratinocytes (seen in Stevens-Johnson syndrome)

e. Subepidermal blister (seen in fixed drug eruptions)
Henderson-Paterson Bodies

- Henderson-Patterson Bodies, aka Molluscum bodies
  - Intracytoplasmic inclusion bodies, containing poxvirus particles, seen in keratinocytes
2 months later, Susie and her mother come back to your office. Susie’s molluscum have not resolved and her mother is now concerned about infection because of new onset redness. You inspect Susie’s skin and see the following:
Case One: Follow-up

What do you think happened?

a. Susie has been scratching, and the molluscum are now secondarily infected.
b. Susie’s eczema has flared around the molluscum.
c. These are new lesions of Eczema herpeticum that resemble molluscum.
d. This is a normal host response that heralds spontaneous involution.
e. Topical steroids for Susie’s eczema have caused contact dermatitis.
Case One: Follow-up

Answer: d

What do you think happened?

a. Susie has been scratching, and the molluscum are now secondarily infected. (This can occur, but inflammation is often just the host response. Furuncle-like appearance may indicate infection)

b. Susie’s eczema has flared around the molluscum. (Molluscum can make eczema worse, but this inflammation is not eczematous)

c. These are new lesions of Eczema herpeticum that resemble molluscum. (E.herpeticum will present with monomorphous, clear fluid-filled vesicles and erosions)

d. This is a normal host response that heralds spontaneous involution.

e. Topical steroids for Susie’s eczema have caused contact dermatitis. (Contact dermatitis presents with an eczematous plaque, not with discrete papules)
Molluscum Contagiosum

- Development of tenderness, crusting, and erythema of molluscum leads many physicians to suspect secondary bacterial infection.
- These signs, however, represent the host response that heralds resolution of the viral infection.
  - Butala et al coined the term BOTE sign, for Beginning Of The End.
- Treatment with antibiotics is usually not necessary.
  - If one lesion has expanding erythema, consider a bacterial culture and treatment with antibiotics based on culture results.
Case Two

Kyle
Case Two: History

- **HPI:** Kyle, a 10-year-old boy, is brought to clinic by his father. The father reports that “bumps” have developed on Kyle’s face, arms, and legs over the last two weeks. Kyle has had eczema since he was a child, but he has never had similar bumps in the past. Kyle says that the itching is always on his mind and admits to frequent scratching. Kyle’s father believes that Kyle had no sick contacts at school or daycare.

- **PMH:** History of moderate-to-severe atopic dermatitis which has been not been well controlled. Multiple courses of oral prednisone for acute exacerbations. History of seasonal allergies.

- **Allergies:** Cats, grasses, molds. No known drug allergies.

- **Medication:** 0.1% triamcinolone ointment, loratadine as needed

- **Family history:** Maternal grandmother and mother have moderate atopic dermatitis; no one else has a rash

- **Social history:** Lives with father; no pets; plays baseball in Little League

- **ROS:** Negative
Case Two: Skin Findings

Patient’s right hand and antecubital fossa shown here. The face and popliteal fossae are also involved.
Case Two: Question 1

Of the following, which is the MOST likely diagnosis?

a. Scabies
b. Irritant contact dermatitis
c. Molluscum contagiosum
d. Nummular eczema
e. Psoriasis
Case Two: Question 1

Answer: c

Of the following, which is the MOST likely diagnosis?

- a. Scabies (usually present with curved burrows and vesicles)
- b. Irritant contact dermatitis (eczematous, scaly edematous plaques with vesiculation)
- c. Molluscum contagiosum (dome-shaped papules with central umbilication, background of poorly controlled atopic dermatitis)
- d. Nummular eczema (coin-shaped plaques, usually on dorsal surface of hands)
- e. Psoriasis (round or oval plaques with well-defined borders and silvery scale)
How will you manage this patient?

a. Apply 5% imiquimod cream carefully to the lesions
b. Prescribe oral acyclovir for one week
c. Provide reassurance that the lesions will resolve on their own
d. Refer patient to dermatologist
e. Use more potent topical corticosteroid, 0.05% clobetasol cream
Case Two: Question 2

Answer: d

How will you manage this patient?

a. Apply 5% imiquimod cream carefully to the lesions (No longer recommended in MC, shown to be ineffective)

b. Prescribe oral acyclovir for one week (acyclovir is not effective in MC)

c. Provide reassurance that the lesions will resolve on their own (MC can become widespread and prolonged in patients with atopic dermatitis)

d. Refer patient to dermatologist (A dermatologist can manage MC and improve control of atopic dermatitis)

e. Use more potent topical corticosteroid, 0.05% clobetasol cream (reduce rather than increase strength of corticosteroid)
Referral Information

Refer a patient with MC to a dermatologist if:

- Recalcitrant/prolonged cases
- Diffuse involvement
- Extensive facial involvement
- Significant discomfort
- Coexisting severe dermatitis
- Immunocompromised
Molluscum and Atopy

- Children with atopy are less likely to clear on their own
- Molluscum cause inflammation that can exacerbate atopic dermatitis
- Scratching can spread the lesion in a linear mode (Koebner phenomenon)
More on Molluscum Contagiosum

- An eczematous reaction encircles lesions in approximately 10% of patients.
- Three groups of people are primarily affected:
  - Young children, especially those with atopy
  - Sexually active adults
  - Immunocompromised individuals
    - Pt taking immunosuppressive medication
    - HIV+ or SCID
- People with eczema and immunocompromising conditions have more widespread and prolonged eruptions.
In sexually active patients when MC occurs in the genital region, it is classified as a sexually transmitted disease.

Most adults with MC present with genital disease.

Children often have MC in the genital area that is not associated with sexual abuse, but a careful history and physical is always warranted.
Molluscum Contagiosum in Immunosuppressed Patients

- Adults with chronic MC outside the genital area should be evaluated for immunosuppression
- Patients with untreated HIV often have lesions concentrated on the face or genitalia. Oral and genital mucosa may be involved
- Giant lesions can occur
- HAART leads to clearance but may have lag time before improvement is seen
Molluscum Contagiosum Summary

- Viral infection due to a pox virus
- Three main groups at risk (children, sexually active adults and immunosuppressed patients)
- Various treatment options available
- In children spontaneous remission frequently occurs and no treatment is a reasonable option
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References

To take the quiz, click on the following link:

https://www.aad.org/quiz/molluscum-contagiosum-learners