Testing Clinical Skills: Applied Knowledge in Dermatology

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No financial relationships with commercial interests.
Patient 1

- 63-year-old man presents with changing spot on his upper back
- Excisional biopsy shows:
  - SSM
  - 0.6mm thickness
  - 1 mitosis/mm²
  - No ulceration

Andrews’ Diseases of the Skin: Clinical Dermatology; “Melanocytic Nevi and Neoplasms”
Patient 1: SSM 0.6mm, 1 mit, no ulc

• What is the next best step in management?
  1) Perform wide local excision with 1cm margins and sentinel lymph node biopsy
  2) Perform wide local excision with 2cm margins and sentinel lymph node biopsy
  3) Perform wide local excision with 1cm margins
  4) Perform wide local excision with 0.5cm margins
  5) Treat with topical imiquimod
Patient 1

- What is the next best step in management?
  1) Perform wide local excision with 1cm margins and sentinel lymph node biopsy
  2) Perform wide local excision with 2cm margins and sentinel lymph node biopsy
  3) **Perform wide local excision with 1cm margins**
  4) Perform wide local excision with 0.5cm margins
  5) Treat with topical imiquimod
# Patient 1: T1a Melanoma

- Important changes in AJCC Melanoma Staging!

<table>
<thead>
<tr>
<th></th>
<th>7th Edition</th>
<th>8th Edition</th>
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<tbody>
<tr>
<td>T1a</td>
<td>≤1.0mm</td>
<td>&lt;0.8mm</td>
</tr>
<tr>
<td></td>
<td>No mitoses or ulceration</td>
<td>No ulceration</td>
</tr>
<tr>
<td>T1b</td>
<td>≤1.0mm</td>
<td>&lt;0.8mm</td>
</tr>
<tr>
<td></td>
<td>≥0.8-1.0mm</td>
<td>≥0.8-1.0mm</td>
</tr>
<tr>
<td></td>
<td>+/- ulceration</td>
<td>+/- ulceration</td>
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<tr>
<td></td>
<td>Ulceration or mitoses ≥1/mm²</td>
<td>Ulceration or mitoses ≥1/mm²</td>
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</tbody>
</table>
Patient 1: T1a Melanoma

- T1a – SLN not recommended since SLN metastases are very infrequent in this group (<5%)
- T1b – Consider SLN given 5-12% rate of SLN involvement
Patient 2

- Mother brings her 7-year-old daughter in to clinic for an itchy scalp
- She has already been treated with OTC 1% permethrin repeated at day 9

Source: www.medicinenet.com
Patient 2

• What do you recommend for treatment?
  1) 5% prescription-strength permethrin
  2) Treat family dog, likely vector of transmission
  3) Suffocate with olive oil or petroleum jelly
  4) Lindane shampoo
  5) Topical malathion
  6) Topical ivermectin
Patient 2: Pediculosis capitis

• What do you recommend for treatment?
  1) 5% prescription-strength permethrin
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  4) Lindane shampoo
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Patient 2: Pediculosis capitis

• What do you recommend for treatment?
  1) 5% prescription-strength permethrin
Patient 2: Pediculosis capitis

- What do you recommend for treatment?
  1) 5% prescription-strength permethrin

NO more effective than over-the-counter preparations
Patient 2: Pediculosis capitis

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  1) 5% prescription-strength permethrin
  2) Treat family dog, likely vector of transmission

Spread via direct contact, no pet vectors
Patient 2: Pediculosis capitis

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  3) Suffocate with olive oil or petroleum jelly

Ineffective, no effect on egg laying
Patient 2: Pediculosis capitis

• What do you recommend for treatment?
  1) 5% prescription-strength permethrin
  2) Treat family dog, likely vector of transmission
  3) Suffocate with olive oil or petroleum jelly
  4) Lindane shampoo

Widespread resistance, neurologic effects
Patient 2: Pediculosis capitis

**Malathion**
- Organophosphate cholinesterase inhibitor
- 98% eradication in 1 study
- Rx only
- Single application of 8-12 hours
- Malodorous, flammable
- Limited safety data under 6yo

**Topical Ivermectin**
- Binds glutamate-gated chloride channels
- 95% clearance
- Rx only
- Single application of 10 minutes
- Well tolerated
- Limited safety data under 6 months
Patient 3

- 67-year-old man s/p renal transplant on tacrolimus with a h/o multiple SCCs in the past year presents with a new painful growth

Lim & Asgari; “Clinical features and diagnosis of cutaneous squamous cell carcinoma” UpToDate.
Patient 3: Renal tx with NMSCs

- He is interested in reducing his risk of future SCCs. What options do you discuss?
  1) Switch from tacrolimus to cyclosporine
  2) Decrease in immunosuppression
  3) No need for treatment, risk decreases over time
  4) Switch from tacrolimus to sirolimus
  5) Start acitretin
Patient 3: Renal tx with NMSCs

• He is interested in reducing his risk of future SCCs. What options do you discuss?

1) Switch from tacrolimus to cyclosporine
2) Reduction in immunosuppression
3) No need for treatment, risk decreases over time
4) Switch from tacrolimus to sirolimus
5) Start acitretin
Patient 3: Renal tx with NMSCs

- 2-3x higher risk of melanoma
- 6-16 times more likely to develop BCC
- 65-250 times more likely to develop SCC
Prevention NMSCs Post-transplant

- **Reduction in immunosuppression**
  - Lower doses result in decreased incidence of SCC or BCC (Dantal et al. 1998)
  - Prolongs survival in patients with advanced disease (Moloney et al. 2004)
Prevention NMSCs Post-transplant

- **Reduction in immunosuppression**
- **Type of immunosuppression**
  - mTOR inhibitors have reduced risk of NMSCs compared with calcineurin inhibitors (Badve et al. 2016)
  - Cyclosporine and azathioprine linked to higher risk
Prevention NMSCs Post-transplant

- **Reduction in immunosuppression**
- **Type of immunosuppression**
- **Chemoprevention**
  - Acitretin – decreased risk of SCCs
    (George et al. 2002; Bavick et al 1995)
  - Nicotinamide –
    - Immunocompetent: 30% reduction in SCCs, 20% BCCs
      (Chen et al. 2015)
    - Renal tx: 22 pts, non-significant 35% reduction (Chen et al. 2016)
Patient 4

- 73-year-old woman s/p lung transplant presents with a new painful growth.
- Biopsy consistent with SCC

Lim & Asgari; “Clinical features and diagnosis of cutaneous squamous cell carcinoma” UpToDate.
Patient 4: Lung tx with SCC

• Which of her following medications could be increasing her risk for developing SCC?
  1) Trimethoprim-sulfamethoxazole
  2) Acyclovir
  3) Ganciclovir
  4) Voriconazole
  5) Pyrimethamine
Patient 4: Lung tx with SCC

• Which of her following medications could be increasing her risk for developing SCC?
  1) Trimethoprim-sulfamethoxazole
  2) Acyclovir
  3) Ganciclovir
  4) Voriconazole
  5) Pyrimethamine

  73% increased risk of SCC over 20 years
  (Mansh et al. 2016)

  Higher rate aggressive SCCs
  (Williams et al. 2014)
Patient 5

• Healthy 3-year-old boy brought in by his father for a rash
• Son is not bothered by it, but father is concerned
Patient 5

What treatment options do you recommend?

1) Curettage
2) Reassurance, no treatment necessary
3) Cryotherapy
4) Cantharidin
5) Podophyllotoxin
Patient 5

• What treatment options do you recommend?
  1) Curettage
  2) Reassurance, no treatment necessary
  3) Cryotherapy
  4) Cantharidin ★ Molluscum heals spontaneously!
  5) Podophyllotoxin ★ Avoid aggressive treatment that could be painful or lead to scarring
Patient 5: Molluscum

- What treatment options do you recommend?
  1) Curettage
  2) Reassurance, no treatment necessary
  3) Cryotherapy
  4) Cantharidin
  5) Podophyllotoxin

★ Molluscum heals spontaneously!
★ Avoid aggressive treatment that could be painful or lead to scarring
Patient 5: Molluscum

- What treatment options do you recommend?
  1) Curettage
  2) Reassurance, no treatment necessary
  3) Cryotherapy
  4) Cantharidin
  5) Podophyllotoxin

★ Molluscum heals spontaneously!
★ Avoid aggressive treatment that could be painful or lead to scarring
Patient 6

• 76-year-old woman with hypertension presents with a two-month history of a widespread, mostly photodistributed rash

• Biopsy shows a band-like lymphocytic infiltrate at the D-E junction with eosinophils
Patient 6

Which of the following medications is the most likely culprit?

1) Lisinopril
2) Vancomycin
3) Metformin
4) Ranitidine
5) Levothyroxine
Patient 6

- Which of the following medications is the most likely culprit?
  1) Lisinopril
  2) Vancomycin
  3) Metformin
  4) Ranitidine
  5) Levothyroxine
Patient 6: Lichenoid Drug Rash

• Common Culprits:
  – ACE inhibitors
  – Thiazide diuretics
  – Beta-blockers
  – Antimalarials
  – NSAIDs
  – Quinidine
  – Gold

www.visualdx.com
Patient 7

- 45-year-old woman presents with the following rash on her chest and upper arms
Patient 7 – Question 1

• Which of the following medications is the most likely trigger?
  1) Hydralazine
  2) Terbinafine
  3) Penicillamine
  4) Atenolol
  5) Procainamide
Patient 7 – Question 2

• Which of the following serological tests will be positive?
  1) Anti-RNP
  2) Anti-Ro
  3) Anti-Histone
  4) Anti-mitochondrial
Patient 7 – Drug-induced SCLE

• Which of the following medications is the most likely trigger?
  1) Hydralazine
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  3) Penicillamine
  4) Atenolol
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Patient 7 – Drug-induced SCLE

• Which of the following serological tests will be positive?

  1) Anti-RNP
  2) Anti-Ro
  3) Anti-Histone
  4) Anti-mitochondrial
# Patient 7 – Drug-induced SCLE

<table>
<thead>
<tr>
<th>Medications</th>
<th>Drug-induced SCLE</th>
<th>Drug-induced SLE</th>
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<tbody>
<tr>
<td>Terbinafine</td>
<td></td>
<td>Methyldopa</td>
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<tr>
<td>HCTZ</td>
<td></td>
<td>Minocycline</td>
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<tr>
<td>Griseofulvin</td>
<td>Omeprazole</td>
<td>Etanercept (TNFα)</td>
</tr>
<tr>
<td>ACEi</td>
<td>Diltiazem</td>
<td>Chlorpromazine</td>
</tr>
<tr>
<td>TNFα</td>
<td></td>
<td>Hydralazine</td>
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<tr>
<td></td>
<td></td>
<td>Isoniazid</td>
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<td></td>
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<td>Phenytoin</td>
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<td></td>
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<td>Procainamide</td>
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<tr>
<td></td>
<td></td>
<td>Penicillamine</td>
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<tr>
<td></td>
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<td>Sulfonamides</td>
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<td></td>
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<td>Alfalfa Sprouts</td>
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<tr>
<th>Auto-antibody</th>
<th>Anti-Ro</th>
<th>Anti-histone</th>
</tr>
</thead>
</table>
Patient 8

- 55-year-old man with a h/o celiac disease presents with tender growths on his knee
- Pathology showed leukocytoclastic vasculitis with prominent neutrophils
Patient 8

• In addition to a gluten-free diet, what therapeutic recommendation do you make?
  1) Prednisone
  2) IVIG
  3) Mycophenolate Mofetil
  4) Dapsone
  5) Methotrexate
Pt 8: Erythema Elevatum Diutinum

• In addition to a gluten-free diet, what therapeutic recommendation do you make?
  1) Prednisone
  2) IVIG
  3) Mycophenolate mofetil
  4) Dapsone
  5) Methotrexate
Patient 9

- 3-month-old girl brought in for evaluation of the following unilateral facial discoloration present since birth

Dermatology; Bolognia, Jorizzo, & Rapini, “Vascular Disorders”
Patient 9

- What additional workup and treatment options do you discuss?
  1) Propranolol therapy
  2) Ophthalmology evaluation
  3) ENT evaluation for possible laryngeotracheal hemangioma
  4) Gadolinium-enhanced Brain MRI
  5) Pulse-dye laser
Patient 9: Forehead Port Wine Stain

- What additional workup and treatment options do you discuss?
  1) Propranolol therapy
  2) Ophthalmology evaluation
  3) ENT evaluation for possible laryngeotracheal hemangioma
  4) Gadolinium-enhanced Brain MRI
  5) Pulse-dye laser
Pt 9: Sturge-Weber Syndrome

- Facial port wine stain involving forehead with ipsilateral glaucoma and neurologic abnormalities
- 10-15% infants with V1 PWS
- Optho eval and brain MRI recommended
- **GNAQ** mutation

**PHACE Syndrome**

- Large, segmental facial hemangioma
- Rapid growth
- Posterior fossa
- Hemangioma
- Arterial anomalies
- Cardiac defect
- Eye abnormalities

Nevus simplex!

- Salmon patch, stork’s bite
- Mid-face, eyelid, occiput
- Capillary stain
- Reassurance!
- Resolve between 1-3 years of age
Patient 10

- 31-year-old woman with a history of psoriasis and psoriatic arthritis mutilans currently well controlled on methotrexate 15mg weekly
- Wants to get pregnant
Patient 10: Psoriatic arthritis

• What treatment options do you recommend?
  1) Continue methotrexate, increase folic acid
  2) Acitretin
  3) NB-UVB
  4) Adalimumab
  5) Prednisone
  6) Mycophenolate Mofetil
Patient 10: Psoriatic arthritis

- What treatment options do you recommend?
  1) Continue methotrexate, increase folic acid
  2) Acitretin
  3) NB-UVB
  4) Adalimumab
  5) Prednisone
  6) Mycophenolate Mofetil
# Pregnancy Safety

<table>
<thead>
<tr>
<th>Medication</th>
<th>Pregnancy Safety</th>
</tr>
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<tbody>
<tr>
<td>Etanercept, Infliximab, Adalimumab</td>
<td>No known increased risk</td>
</tr>
<tr>
<td>Ustekinumab</td>
<td>No known increased risk</td>
</tr>
<tr>
<td>Prednisone</td>
<td>Possible increased risk cleft lip/palate (D)</td>
</tr>
<tr>
<td>Methotrexate</td>
<td>Bone, facial, limb, intellectual defects (X)</td>
</tr>
<tr>
<td>Mycophenolate Mofetil</td>
<td>External ear, facial abnormalities (D)</td>
</tr>
<tr>
<td>Acitretin</td>
<td>Limb and GI malformation (X)</td>
</tr>
</tbody>
</table>
Take-away Points

• Approach clinical questions as a patient encounter in clinic
• Some answers are straightforward, may test common presentations
• May be multiple correct answers
• In some cases, reassurance is the best answer
Thank you!