Drug Rashes from the Dermpath

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DISCLOSURE OF RELEVANT RELATIONSHIPS WITH INDUSTRY

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F007 - Cutaneous Side Effects of Targeted Cancer Therapies: Diagnosis and Management

DISCLOSURES

I do not have any relevant relationships with industry.
Background

Old chemo rashes
• Toxic erythema
• Anagen effluvium
• Onycholysis

New cancer therapy rashes
• Variety of clinical and histologic presentations

Morbilliform drug eruption
Erythema multiforme
DRESS
SJS/TEN
Background- Diagnosis

Old chemo rashes

• Toxic erythema
  – Interface dermatitis
  – Epidermal atypia and dyskeratosis
• Anagen effluvium
  – Clinical
• Onycholysis
  – Clinical

New cancer therapy rashes

• Variety of treatments based on the clinical and histological subtypes
  – Clinical
  – Histology
Old chemo rashes

• Toxic erythema
  – Oral or topical steroids
  – Decrease rate of infusion
  – Cooling

• Anagen effluvium
  – N/A

• Onycholysis
  – N/A

New cancer therapy rashes

• Variety of treatments based on the clinical and histological subtypes
Background- Significance

• Paradigm in which we think of rashes may be different

• No discernible pattern for:
  – Who gets rash
  – Rash type
  – Response to treatment
MD Anderson Cancer Center 2003-2013 medical record clinical review of dermatology patients on Anti-PD1 or Anti-CTLA4

\[ n = 452 \]

Biopsy performed for diagnosis

\[ n = 48 \]

Histopathologic review

\[ n = 27 \]

Statistical analysis

No slides available for review

\[ n = 21 \]
### Histopathologic characteristics

<table>
<thead>
<tr>
<th>Epidermal Reaction Patterns</th>
<th>Additional Features</th>
<th>Inflammatory Infiltrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lichenoid</td>
<td>Spongiosis</td>
<td>Neutrophils</td>
</tr>
<tr>
<td>Vacuolar</td>
<td>Psoriasiform</td>
<td>Eosinophils</td>
</tr>
<tr>
<td>Pustular</td>
<td>Vasculitis</td>
<td>Granulomatous</td>
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<tr>
<td>Vesicular</td>
<td></td>
<td>Melanophages</td>
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</tbody>
</table>

- Parakeratosis
- Exocytosis
- Atrophy
- Papillary dermal edema
- Acantholysis
- Dyskeratosis
- Angiocentricity
Taking a step back

- Clinical meta data
- Histopathologic data
- Compared anti CTLA4 versus anti PD1
- Compared histologic versus clinical features
Results

- 33 biopsies
- 8 from anti PD1
- 19 from anti CTLA4
- Skewed towards melanoma patients and more severe rashes (patients who see a dermatologist more often)
Conclusions

- Lichenoid dermatitis was associated with anti-PD1 and greater CAE severity
- Time to rash onset for CAEs with acantholysis and vesicles was shorter and for CAEs with lichenoid dermatitis was longer
- Needs: Clinically-accessible biomarkers
- Future Directions:
  - Larger prospective study needed
  - More detailed histologic characterization of drug rashes needed
  - Potential predictors of clinical outcome for both rash and tumor in histology
Thank you!

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