Cutaneous Drug Eruptions

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There are 32 Zombieland rules but ONLY ONE drug eruption rule......

• Always ask the patient if they have any drug allergies and if you don’t know prior to writing the prescription ask them.....

Drug eruptions: a detective story

Sometimes a mystery

Sometimes obvious

Cutaneous Drug Eruptions

Most cutaneous drug eruptions occur within 10-21 days of starting a medication but not always...

Mild
Severe
S=Severe
C=Cutaneous
A=Adverse
R=Reaction

(Skin alone)

(Mild cutaneous drug eruptions)

• Most common pattern
• Due to
  • Antibiotics
  • Penicillins
  • Cephalosporins
  • Non steroidal anti-inflammatory
  • Allopurinol
  • Anti-epileptics
  • And many others...

(Skin and other organs)

Morbilliform(measles like)
Mild cutaneous drug eruptions

- Urticaria "Hives"
  - Due to
    - Penicillins
    - Non steroidal anti-inflammatory
    - Angiotensin converting enzyme inhibitors (ACE inhibitors)
    - And many others...

Mild cutaneous drug eruptions

- Skin dyspigmentation (colour change)
  - Due to
    - Minocycline (blue)
    - Hydroxychloroquine (grey)
    - Amiodarone (Blue/grey)
    - And many others...

Mild cutaneous drug eruptions

- Melasma
  - Due to
    - Combined oral contraceptive
    - IUD/Contraceptive implants
    - (Also pregnancy)

Mild cutaneous drug eruptions

- Vasculitis (inflammation of blood vessels)
  - Due to
    - Antibiotics (eg penicillin)
    - Antiepileptics
    - Allopurinol
    - NSAIDs

(Can be systemic- watch kidney function)

Mild cutaneous drug eruptions

- Photosensitivity (sensitive to sunlight)
  - Due to
    - Antibiotics (eg doxycycline)
    - Diuretics (eg hydrochlorothiazide)
    - Oral hypoglycaemics (glibizide)
    - NSAIDs

Mild cutaneous drug eruptions

- Drug induced cutaneous disease
  - Acne
    - Systemic steroids
    - Anabolic steroids
    - Lithium
    - Contraceptives
Mild cutaneous drug eruptions

- A 22 year old woman
- Every month gets a rash at exactly the same place on her skin.

**Diagnosis?**

Fixed drug eruption due to mefenamic acid

Severe Cutaneous Adverse Reactions “SCAR”

- Drug hypersensitivity syndrome
  - Drug Reaction with Eosinophilia and Systemic Symptoms “DRESS”
- Stevens-Johnson Syndrome/Toxic Epidermal Necrolysis (SJS/TEN)

Severe cutaneous adverse reactions

- 52 year old woman
  - C/o: A rash and feeling generally unwell 4 days
  - PMH:
    - Diabetes mellitus-retinopathy, nephropathy
    - Ischaemic heart disease
    - Hypertension
    - Dyslipidaemia

Severe cutaneous adverse reactions

- OE
  - Febrile 38.5 °C
  - Rash
    - Extensive - morbilliform & peel

**Initial differential diagnosis?**

Infection ?viral ?bacterial
Severe cutaneous adverse reactions

- Given IV antibiotics but fever and rash did not settle
- Infection screen –ve
  - MSU
  - Blood culture
  - CXR

Severe cutaneous adverse reactions

- Re took a drug history
- Started allopurinol 100mg od 2 weeks prior to admission...

- Diagnosis: Drug Reaction with Eosinophilia and Systemic symptoms (DRESS)

Also: liver function can be deranged, lymphadenopathy

Severe cutaneous adverse reactions

- Liver function tests
Severe cutaneous adverse reactions

- **DRESS**
  - Stop allopurinol
  - Give prolonged course of systemic steroids
  - Fever abruptly stops
  - Exclude infection

**Erythema multiforme/Steven Johnson syndrome and Toxic Epidermal Necrolysis**

- 66 year old woman
- C/o
  - 4 days of ulcers on lip and mouth
  - Rash
  - 16 days earlier started carbamazepine
- PMH
  - Complex partial seizures

**Diagnosis**
- Stevens Johnson syndrome secondary to carbamazepine (<10% epidermal loss)

**Treatment**
- STOP Carbamazepine
- Supportive

**NB: Pharmacogenetics**
- HLA-B*1502 confers a greater risk of SJS/TEN due to carbamazepine in all Asian (esp Han Chinese) patients

**TEST FOR IT!**
• 15 year old boy.
• C/O
• 3 days of a rash and feeling unwell
  • Hx of URTI symptoms
  • Self medicated
    • Took one of his brother’s amoxicillin/clavulanic acid tablets
• O/E
  • Unwell
  • Hypotensive
  • Extensive rash
Diagnosis
- Toxic epidermal necrolysis secondary to penicillin (>30% epidermal loss)

Treatment
- STOP Penicillin
- Burns unit
- Supportive mainly

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Summary
Culprits are often:
- Antibiotics
- Anti epileptics
- Anti gout - allopurinol
- Non steroidal anti-inflammatories

Timing:
- Usually but not always occur within 10-21 days
- Although...any drug at any time could be implicated

Summary
- Think of the possibility of a drug eruption
- Take a careful history
- Stop the drug ASAP
- Use computer alerts or MedicAlert bracelet
- Don't let it happen again
- Significant medicolegal implications
- Remember the only drug eruption rule....

There are 32 Zombieland rules but
**ONLY ONE** drug eruption rule.....

**Always** ask the patient if they have any drug allergies and if you don't know prior to writing the prescription ask them.....

[Image of Zombieland movie poster]
Thank you

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