Going around in Circles:  
An Approach to Annular Skin Lesions

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“I would like to acknowledge that we are gathered on the traditional, ancestral and unceded territory of the Coast Salish peoples—Skwxwú7mesh (Squamish), Stó:lō and Səl̓ílwətaʔ/Selilwitulh (Tsleil-Waututh) and xʷməθkʷəy̓əm (Musqueam) Nations.”
Presenter Disclosure

• **Presenters:** Dr. Saadia Hameed, Dr. Afshan Mohaterem and Dr. Fouzia Rehan.

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  – Patents: None
  – Other: None
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• **Potential for conflict(s) of interest:**
  • Medications in the treatment of annular lesions will be discussed and their manufacturing pharmaceutical companies may benefit from the mention. However, the presenters’ intention is to teaching therapeutic choices, not support or recommendation of pharmacotherapeutic agents from a commercial perspective.
Learning Objectives

01
1- Perform an initial evaluation (history, physical examination, investigations) to determine the underlying etiology of annular skin lesions

02
2- Describe the common dermatological and non-dermatological differential diagnoses of annular skin lesions

03
3- Implement non-pharmacological and applicable pharmacological treatments for the management of annular skin lesions.
Basic definitions

Clinical approach

4 common annular lesions in FM

Pre-Post tests
1-4 week hx of expanding and multiplying, slightly itchy rash.
III-3 week hx of non pruritic, spreading rash following a viral URI
III-40 yo M with itchy spreading rash for 6 weeks. Otherwise well but poor pedal hygiene.
IV- 4 yo with a 2m hx of non-pruritic expanding rash on dorsum of foot. Otherwise well
V- 3 week hx of expanding solitary lesion after wilderness adventure. Non scaly
Introduction to Annular lesions

• Stems from a Latin word, “Annulus” meaning: RINGED

• Annular skin lesions are characterized by a ring-like morphology. Although plaques represent the most common presentation of annular lesions, lesions may also be macular, nodular, or composed of grouped papules, vesicles, or pustules.

• True oval/round patches and plaques are excluded from our presentation today even though such lesions may be part of your differential diagnosis.
Discoid eczema
Syphilis
Plaque/gutate Psoriasis
Approach

History and Physical examination

Investigations

Management
History and Physical Examination

• What are additional physical characteristics of the lesions?

• Where are the lesions located?

• Are the lesions stationary, expanding, or migratory?

• Are there associated systemic or cutaneous signs or symptoms?
Physical exam

- Lesion type (Primary Morphology)
  - Colour
  - Texture
  - Location and Distribution
- Lesion Configuration (secondary morphology)
Colour

Acute Inflammatory lesions – Bright Red, Blanchable

Chronic lesions – Pink

Urticaria – Pink, raised and smooth

Lesions with epidermal erosion - Dusky Red to Violaceous colour

Old lesions and resolving lesions may result in Post-Inflammatory Hyperpigmentation [PIH]
Annular, erythematos plaques with "trailing scale" are classic features of superficial erythema annulare centrifugum.
Scale or Texture

- Leading Scale
- Trailing Scale
Target lesions of erythema multiforme

Porokeratosis of Mibelli

Target lesions with central bullae are present on the hand.
Vesicles – Pustules - Purpura

- Linear IgA dermatosis
- Purpura Annularis Telangectodes of Majocchi
- Henoch Schonlein Purpura
- Traumatic Purpura
Location/Distribution of Annular Lesions

- Photo-distributed
- Acral
- Genital
<table>
<thead>
<tr>
<th>Photodistributed</th>
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<tbody>
<tr>
<td>Subacute cutaneous lupus erythematosus</td>
<td>Most common in adult women; approximately 50 percent meet criteria for SLE</td>
</tr>
<tr>
<td>Lupus erythematosus tumidus</td>
<td>Most common in adult women</td>
</tr>
<tr>
<td>Neonatal lupus erythematosus</td>
<td>Infants up to four months of age</td>
</tr>
<tr>
<td>Actinic lichen planus</td>
<td>Most common in dark-skinned young adults; particularly those of Middle-Eastern descent</td>
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<table>
<thead>
<tr>
<th>Acral</th>
<th></th>
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<tbody>
<tr>
<td>Erythema multiforme</td>
<td>Most frequent in young adults, but occurs at all ages; commonly associated with HSV</td>
</tr>
<tr>
<td>Granuloma annulare</td>
<td>See &quot;Expanding lesions&quot; above</td>
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<table>
<thead>
<tr>
<th>Genital</th>
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<tbody>
<tr>
<td>Erythema multiforme</td>
<td>See &quot;Acral&quot; above</td>
</tr>
<tr>
<td>Circinate balanitis in reactive arthritis</td>
<td>Most common in young men; associated with HLA-B27</td>
</tr>
<tr>
<td>Annular lichen planus</td>
<td>Most common in men</td>
</tr>
</tbody>
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# Lesion Progression

## Expanding lesions

<table>
<thead>
<tr>
<th>Lesion</th>
<th>Characteristics</th>
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<tbody>
<tr>
<td>Tinea corporis</td>
<td>See &quot;Peripheral scale&quot; above</td>
</tr>
<tr>
<td>Erythema migrans (Lyme disease)</td>
<td>Children and adults</td>
</tr>
<tr>
<td>Granuloma annulare</td>
<td>Large erythematous plaque that rapidly expands</td>
</tr>
<tr>
<td>Granuloma annulare centrifugum</td>
<td>Non-scaly plaque with a dull erythematous color; often found on distal extremities</td>
</tr>
<tr>
<td>Superficial erythema annulare centrifugum</td>
<td>See &quot;Peripheral scale&quot; above</td>
</tr>
<tr>
<td>Deep erythema annulare centrifugum</td>
<td>Children and adults</td>
</tr>
<tr>
<td>Serum sickness-like reaction</td>
<td>Erythematous plaques without scale on face, trunk, or extremities</td>
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## Migratory

<table>
<thead>
<tr>
<th>Lesion</th>
<th>Characteristics</th>
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</thead>
<tbody>
<tr>
<td>Urticaria</td>
<td>Children and adults</td>
</tr>
<tr>
<td>Erythema marginatum</td>
<td>Most common in children; occurs in rheumatic fever due to group A streptococcal infection</td>
</tr>
<tr>
<td></td>
<td>Pink edematous plaques (wheals)</td>
</tr>
<tr>
<td></td>
<td>Erythematous, polycyclic patches or plaques that migrate within hours</td>
</tr>
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</table>
Clinical Tip

• Marking with a pen
• Measure Lesions with Ruler

If following over time...
Erythema Migrans [EM]

- EM - Lyme disease - present in 70–80% of cases
- Starts as a red papule - gradually expands - 20 to 30 cm in diameter
- As rash expands – peripheral red ring with central red disc (like a bull's-eye) - most typical appearance.
- Can present as a uniform erythematous patch
- Usually asymptomatic – but can be itchy, sensitive, warm and rarely painful.
- Disappears spontaneously - 3–6 weeks
Rarely confused with a solitary lesion of Erythema Mutiforme
## Secondary Morphology

<table>
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<tr>
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<th>Image</th>
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<tbody>
<tr>
<td><strong>Arcuate</strong></td>
<td><img src="image1.png" alt="Arcuate Image" /></td>
</tr>
<tr>
<td><strong>Polycyclic</strong></td>
<td><img src="image2.png" alt="Polycyclic Image" /></td>
</tr>
<tr>
<td><strong>Target/Targetoid</strong></td>
<td><img src="image3.png" alt="Target/Targetoid Image" /></td>
</tr>
<tr>
<td><strong>Atypical</strong></td>
<td><img src="image4.png" alt="Atypical Image" /></td>
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Associated Symptoms: Cutaneous or Systemic

• Most Annular lesions are either asymptomatic or mildly to moderately pruritic.

• Dermatitis or Lichenification from scratching

• **Urticarial vasculitis:** burning or painful sensations in addition to pruritus.

• Presence of chronic or other autoimmune diseases such as Diabetes, Hypothyroidism, SLE, RA etc.

• Stress, Hormonal Changes (menopause), Immune Modulating Medications, excessive heat, infections etc
<table>
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<tr>
<th>Differential Diagnosis</th>
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<tbody>
<tr>
<td><strong>Dermatophyte/Tinea</strong></td>
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<tr>
<td>Asymmetric, well demarcated, erythematous lesion with or without central clearing <strong>HALLMARK – LEADING SCALE</strong></td>
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<table>
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<tr>
<th><strong>Erythema Multiforme</strong></th>
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<tr>
<td>Face and extremities. Classic target lesions which evolves over several days - sharply demarcated macule - progress to edematous raised papules. Mature lesion has three distinct zones, encircling erythema a pale outlining ring and dull red center. Drug reaction, involves mucous membrane, can be more extensive with associated systemic symptoms <strong>HALLMARK – 3 ZONES – ACRAL DISTRIBUTION</strong></td>
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<th><strong>Syphilis</strong></th>
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<tbody>
<tr>
<td>Lesion is annular or polycyclic, and arciform in relapsing secondary syphilis. Usually well defined except for macular exanthem. Lesion are scattered tend to remain discrete and symmetric. Generalized eruption on trunk. localized eruption, scaly and papular involves head, neck, palms and soles. <strong>HALLMARK- POLYMORPHIC AND ACRAL/GENITAL</strong></td>
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<table>
<thead>
<tr>
<th><strong>Granuloma Annulare</strong></th>
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<tbody>
<tr>
<td>Annular rash associated with DM and DLD. Localized disease affects dorsal surface of fingers, hands, elbows, feet and ankles. Asymptomatic, erythematous to violaceous coloured papules or plaques with thin smooth border, non scaly. Lesion develop slowly, spread peripherally and involute centrally giving an annular appearance. <strong>HALLMARK – NO SCALE – ACRAL (DORSUM)</strong></td>
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<table>
<thead>
<tr>
<th><strong>Urticaria</strong></th>
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<tbody>
<tr>
<td>Wheals/Hives - raised, blanching and erythematous patches can appear annular. Urticaria may be accompanied by deeper ill defined swelling of dermis and subcutaneous tissue called angioedema. <strong>HALLMARK – DO NOT LAST FOR MORE THAN 24 HOURS – NO SCALE</strong></td>
</tr>
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<table>
<thead>
<tr>
<th><strong>Erythema Annulare Centrifugum</strong></th>
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<thead>
<tr>
<th><strong>Erythema Chronicum Migrans</strong></th>
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<tbody>
<tr>
<td>ECM is cutaneous manifestation of lyme disease. Papule forms at the site of bite – progress tp large annular target lesion. Expanding boarder is slightly raised and warm. Rash is self limiting, fade in 6 weeks without treatment. <strong>HALLAMRK – TARGET SHAPED- LARGE – NO SCALE</strong></td>
</tr>
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<tr>
<th><strong>Mycosis Fungoides</strong></th>
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<tbody>
<tr>
<td>This is most common skin lymphoma. 55-60 years old – twice in Male. Well or ill defined patches later becomes plaques. Maybe scaly and very red (red man syndrome). Mimic eczema, psoriasis, dermatophyte infection and Erythema Multiforme. Diagnosis is usually with biopsy. <strong>HALLMARK – EXTENSIVE DUSKY RED RASH – OCC PAPULES – SCANT SCALE</strong></td>
</tr>
</tbody>
</table>
Investigations

- Dermoscopy
- Skin scraping
- Bloodwork
- Biopsy
Dermatoscopy
Skin Scraping

Scaly Annular lesions
Bloodwork

• Autoimmune status (especially if + Hx) ANA, ESR, CRP

• Target or atypical lesions – Herpes simplex virus (HSV) is a common trigger of erythema multiforme. If lesion present, the performance of Tzanck smears, direct fluorescent antibody preparations, viral cultures, or PCR studies on specimens taken from the site may be used to confirm the presence of the virus (use Michel Medium)

• Migratory lesions – Lyme disease titres

• CBC, peripheral smears, Lipid profile and HbA1c with rashes associated with diabetes and other malignancies
Biopsy

• Skin biopsy is always an option when the diagnosis is uncertain. It is most useful when the disorders being considered have different histopathologic findings. A 4 mm punch biopsy from the active edge of an annular lesion is generally preferred over a shave biopsy, as it allows for evaluation of the full thickness of the epidermis and dermis.

• ALWAYS DO 2 BIOPSIES
  1. Regular formaldehyde bottle for H&E stain
  2. Michel Medium for Direct Immunofluorescence [DIF]
**FIFE**

- Feelings
- Ideas
- Function
- Expectations

**DLQI (Dermatology Life Quality Index)**

The aim of this questionnaire is to measure how much your skin problem has affected your life OVER THE LAST WEEK. Please tick (✓) one box for each question.

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
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</thead>
<tbody>
<tr>
<td>1. Over the last week, how itchy, sore, painful or stinging has your skin been?</td>
<td>Very much ✓, A lot ✓, A little ✓, Not at all</td>
</tr>
<tr>
<td>2. Over the last week, how embarrassed or self conscious have you been because of your skin?</td>
<td>Very much ✓, A lot ✓, A little ✓, Not at all</td>
</tr>
<tr>
<td>3. Over the last week, how much has your skin interfered with you going shopping or looking after your home or garden?</td>
<td>Very much ✓, A lot ✓, A little ✓, Not at all</td>
</tr>
<tr>
<td>4. Over the last week, how much has your skin influenced the clothes you wear?</td>
<td>Very much ✓, A lot ✓, A little ✓, Not at all</td>
</tr>
<tr>
<td>5. Over the last week, how much has your skin affected any social or leisure activities?</td>
<td>Very much ✓, A lot ✓, A little ✓, Not at all</td>
</tr>
<tr>
<td>6. Over the last week, how much has your skin made it difficult for you to do any sport?</td>
<td>Very much ✓, A lot ✓, A little ✓, Not at all</td>
</tr>
<tr>
<td>7. Over the last week, has your skin prevented you from working or studying?</td>
<td>Yes ✓, No ✓</td>
</tr>
<tr>
<td>If &quot;No&quot;, over the last week how much has your skin been a problem at work or studying?</td>
<td>A lot ✓, A little ✓, Not at all</td>
</tr>
<tr>
<td>8. Over the last week, how much has your skin created problems with your partner or any of your close friends or relatives?</td>
<td>Very much ✓, A lot ✓, A little ✓, Not at all</td>
</tr>
<tr>
<td>9. Over the last week, how much has your skin caused any sexual difficulties?</td>
<td>Very much ✓, A lot ✓, A little ✓, Not at all</td>
</tr>
<tr>
<td>10. Over the last week, how much of a problem has the treatment for your skin been, for example by making your home messy, or by taking up time?</td>
<td>Very much ✓, A lot ✓, A little ✓, Not at all</td>
</tr>
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</table>

Please check you have answered EVERY question. Thank you.
SUMMARY OF THE APPROACH

History and PE: primary and secondary morphology, Location, Progression and Associated symptoms (differential diagnosis)

Investigations: Dermoscopy, Skin scrapings, Bloodwork and Biopsy

FIFE
Common skin conditions which manifest in annular patterns

<table>
<thead>
<tr>
<th>Tinea</th>
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</table>
Dermatophytes are filamentous fungi in the genera *Trichophyton*, *Microsporum*, and *Epidermophyton*.

Dermatophytes metabolize and subsist upon keratin in the skin, hair, and nails.

The major clinical subtypes of dermatophyte infections are:

- **Tinea corporis** – Infection of body surfaces other than
- **Tinea pedis** – Infection of the foot
- **Tinea cruris** – Infection of the groin
- **Tinea capitis** – Infection of scalp hair
- **Tinea unguium (dermatophyte onychomycosis)** – Infection of the nails
Etiology

• *T. rubrum* is the most common cause of tinea corporis.

• Other notable causes include *Trichophyton tonsurans, Microsporum canis, T. interdigitale, Microsporum gypseum, Trichophyton violaceum*, and *Microsporum audouinii*.

• Infection occurs by direct skin contact with an infected individual or animal, contact with fomites, or from secondary spread from other sites of dermatophyte infection (eg, scalp, feet, etc).
Tinea corporis often begins as a pruritic, circular or oval, erythematous, scaling patch or plaque that spreads centrifugally.

Central clearing follows, while an active, advancing, raised border remains.

The result is an annular (ring-shaped) plaque from which the disease derives its common name (ringworm). Multiple plaques may coalesce. Pustules occasionally appear.

Tinea corporis contracted from infected animals, particularly kittens and puppies, is often intensely inflammatory.

Extensive tinea corporis should raise concern for an underlying immune disorder, such as human immunodeficiency virus (HIV), or for diabetes.
Investigation:

- Skin Scraping for microscopy and culture
- Wood’s Lamp exam
Treatment: Topical Antifungals

- **Azoles**
  - Clotrimazole (Canesten) – Cream or Ointment
    bid X 2 to 3 weeks or till sx resolution
  - Ketoconazole (Ketoderm/Nizoral Shampoo)
    Once a day X 2 to 3 weeks or till Sx resolution
  - Miconazole (Monistat, Desenex powder)
    Once a day X 2 to 3 weeks or till Sx resolution
  - Echinaconazole (Jublia)★
Antifungal: Topical contd

• **Allylamines**
  - **Naftifine (Naftifin/Naftifine crm)**
    Once or bid X 2 to 3 weeks or till Sx resolution
  - **Terbinafine (Lamisil)**
    Once daily or bid X 2 to 3 weeks or till Sx resolution

• **Benzylamine**
  - **Butenaphine (LotriminUltra) crm**
    Once daily but twice for tinea pedis X 2 to 3 weeks or till Sx Resolution
Antifungals: Topical contd

• Ciclopirox
  - Ciclopirox (Nail lacquer, Cream and Shampoo)
  Once daily or bid X 2 to 3 weeks or till Sx resolution

The only topical which is effective for both dermatophytes, candida and tinea versicolor

• Tolnaftate
  - Tolnaftate (Tinactin family of topicals)
Dermatologic Antifungal Resistance

**Efficacy of topical antifungals in the treatment of dermatophytosis: a mixed-treatment comparison meta-analysis involving 14 treatments.**

Rotta I, Ziegelmann PK, Otuki MF, Riveros ES, Bernardo NL, Correr CJ.

**CONCLUSIONS AND RELEVANCE:** With the outcome mycologic cure at the end of treatment, there was no significant difference among the antifungals. Butenafine, naftifine, and terbinafine might be the best strategies for maintaining cured status. Because of the different costs of the antifungals, pharmacoeconomic analysis is required to identify the most efficient strategy for dermatophytosis management.
Antifungals: Systemic

- **Terbinafine** *(Lamisil)*: 250 mg per day for two weeks
- **Itraconazole** *(Sporonox)*: 200 mg twice daily for one week

It is extensive or severe
It resists topical antifungal therapy
It affects hair-bearing areas
Adjuvant Therapy

**Keratolytic agents**
- Salicylic Acid in Petrolatum Jelly (2% to 5%)
- 10 to 20% Urea cream (Costco foot cream)

**Antiseptics**
- Bleach in water: dilution 1:9
- Tea Tree Oil
POROKERATOSIS

Unknown etiology – genetic? Autoimmune?
Different variants effect patient from ages of 5 to 50s
Benign – no treatment necessary
Cryotherapy, electrosurgery, excision
New evidence to support compounded cholesterol and Lovastatin as topical treatment for cure
Granuloma Annulare

- Asymptomatic
- Relatively common, self-limiting, benign disorder of dermis.
- Effecting young adults and children
- Female: Male ratio 2:1.
- Etiology unknown. 3/4 cases of generalized GA are associated with diabetes mellitus and malignancies.
- Lesions can last for years before resolving in 75% of cases. Recurrence is common.
Types of GA

- GA can present in any of the following types:
- Localized affecting the dorsal surface of hand, feet, elbows, and ankles. Small pink papules join together to form a ring, no scales on the surface. (Should not be confused with tinea)
- Flat pink or mauve patch often on dorsum of foot, thigh, trunk, or upper arms
- Generalized macular rash with no surface changes, can be anywhere. Biopsy is needed for diagnosis.
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Disseminated granuloma annulare
Differential Diagnoses

- Tinea
- Erythema Migrans of lyme disease,
- Nummular eczema,
- Psoriasis.
- Sarcoidosis
- Lichen Planus (usually itchy, vilaceous and violaceous)
- Lack of any skin surface changes is the key feature that distinguish GA from other skin condition..
Due to the association of GA with Diabetes, autoimmune disease and malignancies such as lymphomas, the following bloodwork can be ordered:

- sTSH
- HbA1c
- FBS
- CBC
- immune markers
- ESR
- CRP
- ANA
- RF etc

GA is generally a clinical diagnosis however, a biopsy can clarify the diagnosis in atypical and more generalized rash.
Histopathology

- Histopathology: foci of chronic inflammatory and histiocytic infiltration of superficial and mid dermis, necrobiosis of connective tissue surrounded by a wall of histiocytes and multinucleated giant cells.
- Epidermis is normal.
Treatment

• Reassurance that it is a “harmless condition will eventually go away” (especially localized GA)
• Topical steroids can be used if needed.
• Intra-lesional steroid injections (Triamcinolone 3mg/ml)
• PUVA Photochemotherapy for generalized GA.
• Systemic Steroids for generalized GA. (recurrence is common)
• Systemic immunosuppressants for generalized and unremitting disease
SPOT Dx?
Erythema Multiforme

- EM is an acute, immune mediated, self limited condition
- Symmetrical erythematous papules which evolve into typical target lesions with well defined borders
- Minor: Skin (Von-Hebra’s Disease)
- Major: Skin + Mucus Membrane. (+/- fever and arthralgia)
- Distribution: Acral, Palms, Elbows, Knees and Face. Can spread to other parts of the body.
Epidemiology

- Exact incidence is unknown.
- Usually young adults are involved with slight male predominance.
- Uncommon in other age groups. May have some genetic susceptibility.
Etiology

Infections: 90%

**Virus:** HSV is the most commonest but can occur with other viruses

**Bacterial:** Mycoplasma Pneumoniae (in children) Chlamydia, Salmonella, TB

**Fungal:** Histoplasma and Dermatophytes.

**Drugs:** NSAID, Antibiotics, Allopurinol, Sulfonamide and Anti-convulsants

**Rare causes:** Poison Ivy, SLE, Inflammatory bowel disease and Behcet’s Disease
Pathogenesis

Predisposed patients

Skin lesions

HSV infection

cell medicated immune response against the virus

Pathogenesis

HSV infection

Skin lesions

Predisposed patients

cell medicated immune response against the virus
Natural history (prognosis)

• There are 3 possible trajectories for EM

• **Typical**: The typical lesions starts within 24 hours and fully manifests in 72 hours and usually lasts for 2 weeks with out any scar or with mild hypo/hyperpigmentation.

• **Recurrent EM**: Average 6 episodes per year with duration of 6-10 years.

• **Persistent EM**: The lesion persists longer than one year. Usually viral, Inflammation and malignancy.
Approach

• History recent viral infection or significant stressor
• Look for Mucosal involvement.
• CBC for possible lymphocytosis (viral infection)
• Biopsy: Direct biopsy and immunofluorescence.
• Usually clinical diagnosis
• Histopathology: Non specific – variable with trajectory of disease. Some C3 and fibrin along the DEJ – non specific
Management

• Mild cases, symptomatic management
  Mometasone Furoate 0.1% (Elocom) lotion
  Oral anti-histamine.
  Mucosal involvement: High potency steroid gel.
  (Fluocinonide 0.05% gel)
  Mouth wash containing Lidocaine, diphenhydramine.
  Maalox: Swish and spit.

• Severe mucosal involvement: Oral Prednisone 50mg with slow tapering 3-4 weeks.

• Dexamethasone 0.1% eye drops for ocular involvement.

• Referral to Ophthalmologist.
Management contd.

• For recurrent HSV associated EM: 6 months of antiviral suppression therapy
  Acyclovir: 10mg/kg in divided doses
  (400mg BID)
  Valacyclovir: 500-1000mg/day
  Famciclovir: 250-500mg po bid

• Severe cases and resistant to prophylactic therapy (Referral to Dermatologist – SJS)
  Azathioprine 100 mg/day.
  Prednisone 0.5mg/kg/day
  Thalidomide
  Dapsone
  Cyclosporine.
  Mycophenolate mofetil
  PUVA.
• Erythema annulare centrifugum (EAC) is a chronic, reactive phenomenon of the skin.

• Arcuate or annular, erythematous patches or thin plaques that frequently exhibit scale along the inner portion of the advancing edge of lesions ("trailing scale")
Etiology

• EAC has been shown to occur in association with underlying medical conditions and medications in 72% of cases.

• It is thought to be a form of hypersensitivity reaction to conditions such as: Tinea, Malignancy, Medication SE, Pregnancy, Hematological disorders, Endocrine disorders, Rheumatologic diseases, dietary (cheese, tomatoes), and stress.

• Erythema annulare centrifugum most often occurs in adults, but all ages can be affected. The average age of onset is 40 years.
Approach: history and physical exam

- Mainly thighs, buttocks and upper arms
- Starts as a pink papule and then progresses over several weeks
- Size can range anywhere from a few millimeters to many centimeters
- Annular lesions can be partial (arciform) and coalesce to form polycyclic (ringed), serpiginous (wavy) and gyrate (revolving) patterns.
- Classically, the annular or arciform lesions have an advancing outer erythematous edge with a trailing (inner) scaly edge.
- The rash may be itchy.
- Colour: superficial pink and generalized violaceous and darker
Erythema Annulare Centrifugum [EAC]
Investigations

- Skin scarping and nail clippings, mucosal lesions?
- Biopsy - 4mm punch from peripheral margin
- General Bloodwork
- Age appropriate cancer screening
Histology

- The histopathologic findings in EAC vary based upon the clinical presentation. Presentations with superficial scale exhibit a dense, perivascular, lymphocytic, inflammatory infiltrate limited to the superficial dermal vascular plexus. The appearance of the perivascular infiltrate is thought to resemble a coat sleeve. In addition, there may be alterations in the papillary dermis and epidermis, including edema, spongiosis, parakeratosis, hyperkeratosis, and basal layer vacuolization.
Treatment

• The appearance of EAC is worrisome for patients and they seek treatment. However, data on treatment are limited and there is no clear treatment for EAC

• If a trigger is found, then that should be treated.

• If a trigger is absent then the goal is lesion improvement and symptoms control

  • STRONG STEROID
    • Clobetasol or Dovobet ung
twice daily X 2 weeks
    Fu in 2 weeks
WEAK STEROID

Betamethasone Valerate 0.01% crm or Mometasone crm
Bid X 2 weeks then gradually taper off over a month

1% menthol in Glaxal lotion to apply as needed
(keep refrigerated for more symptom control)

Doxepin 3, 5, 10 mg hs for pruritus

Antihistamines, Intralesional injections, Erythromycin,
Biologics, and phototherapy etc.
Granuloma Annulare [GA]

Erythema Multiforme [EM]

Erythema Annulare Centrifugum [EAC]
Take Home Points

• Have some of the common annular rashes on your differential
• Detailed hx of preceding illnesses and associated sx should be taken
• Examine the whole body (distribution)/mucosa
• Examine lesions carefully under magnification
• Skin scrapings for microscopy is an easy, cheap and useful test
• Whenever in doubt do 2 biopsies (H&E and DIF)
• Most annular rashes are self limiting.
• Refer with extensive or mucosal involvement
• Preventative screening if autoimmune etiology is suspected
1-4 week hx of expanding and multiplying, slightly itchy and scaly rash.

Tinea Corporis
Il-3 week hx of non pruritic, spreading rash following a viral URI

Erythema Multiforme
III-40 yo with itchy spreading rash for 6 weeks. Otherwise well but poor pedal hygiene.

Erythema annulare centrifugum
IV- 4 yo with a 2m hx of non-pruritic expanding rash on dorsum of foot. Otherwise well.

Granuloma Annulare
V- 3 week hx of expanding solitary lesion after wilderness adventure. Non scaly

Erythema Migrans
Thank You!
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