There is “ring and ring”
Annular Rash Rash Differential

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Pediatric Grand Rounds
Annular rash

• Objective:
  – With the help of cases reports
    Recognize a few different annular rashes
    in Paediatrics
  – Enlarge the differential
  – Know the indications and limits of therapeutic perspectives
Case one

• Baby born 25 weeks
• Exclusively breast fed
• Develops at 2 months corrected a peri-orificial and annular rash
• Around mouth, nose, eyes, ears,
• A few annular plaques on scalp elbows back, buttock.
• diaper rash under control with zinc-oxyde paste
Around mouth, nose,
Ears
Eyes
Annular plaques on elbows
Annulare centrifugatum, papulosquamous
Differential of Neonate **annular rash**

• Apart from this diagnosis that some of you may have recognized

• Any other differential for annular rash of neonate?
Neonatal lupus

- Raccoon eyes
- Affects face
- Annular finely scaly
Racoon eye
Neonatal lupus
Neonatal lupus? (NLE)

• NLE:

• Autoimmune disorder caused by the passive transfer of maternal autoantibodies, anti-Ro, anti-La and, less commonly, antiribonucleoprotein.
Danger of Neonatal Lupus?
Danger of neonatal lupus

• The skin and heart are commonly affected, with the most serious complication being third-degree atroventricular heart block (AVB).
Pregnancy outcomes in patients with autoimmune diseases and anti-Ro/SSA antibodies.

- Brucato A1, Cimaz R, Caporali R, Ramoni V, Buyon J.
- Abstract
  - Anti-Ro/SSA antibodies are associated with neonatal lupus (congenital heart block (CHB), neonatal transient skin rash, hematological and hepatic abnormalities), but do not negatively affect other gestational outcomes, and the general outcome of these pregnancies is now good, when followed by experienced multidisciplinary teams.
  - The prevalence of CHB, defined as an atrioventricular block diagnosed in utero, at birth, or within the neonatal period (0-27 days after birth), in the offspring of an anti-Ro/SSA-positive women is 1-2%, of neonatal lupus rash around 10-20%, while laboratory abnormalities in asymptomatic babies can be detected in up to 27% of cases.
  - The risk of recurrence of CHB is ten times higher. Most of the mother sare asymptomatic at delivery and are identified only by the birth of an affected child. Half of these asymptomatic women develop symptoms of a rheumatic disease, most commonly arthralgias and xerophtalmia, but few develop lupus nephritis. A standard therapy for CHB is still matter of investigation, although fluorinated corticosteroids have been reported to be effective for associated cardiomyopathy.

- Serial echocardiograms and obstetric sonograms, performed at least every 1-2 weeks starting from the 16th week of gestational age, are recommended in anti-Ro/SSA-positive pregnant women to detect early fetal abnormalities that might be a target of preventive therapy.
Work up and risks?

• Autoimmune work up mother
  – ANA, anti ro, anti la, anti RNP, CBC, creatinin, urinanalysis, ECG
  – Mother’s autoimmune disorder can still be unknown, unexpressed

• Major risk of Cardiac 3rd degree Atrio-Ventricular Bloc (AVB):
  → ECG for neonate and cardiac follow up.
• Low but existing % of risk of developing autoimmune disease
• Need for long term F/U
Another annular rash of neonate?
“A wrinkled potbellied old man with a cold in his head”
(1854 Paul Diday)

Picture from Fitzpatrick’s Dermatology in General Medicine
Neonatal syphilis

- Annular facial rash
- Stuffy nose
- Hands and feet peeling
What does the skin look like?

- Dry and wrinkled skin
- Annular papulo-squamous plaques on face and scalp:
  - Copper to red +/- scaly maculae on **palms and soles** and diaper area
- Highly infectious bullae on palms and soles, “Syphilis pemphigus” in severe cases
- Ulcerations around the **mouth, nose, anus**
Bullae on the soles
Apart the skin,

- **Lymphadenopathy 50%** cases: Firm mobile epitrochlear nodes, characteristic

- **Bone sign:** 97% of autopsied congenital syphilis, very early sign:
  - “saw tooth” of the metaphysis
  - Can be painful, pseudoparalysis of Parrot, later sign (6 months to 1 year)
Lacunae of the left tibia metaphysis
What test must we do?

If we can see the TREPONEM

• In the skin
• In the nasal mucus
• In the CSF

The diagnosis is easy

But not in the mouth where saprophytes spirochetes are observed.
Spirochetes detected in the CSF
50%
only 10% symptomatic
All infant born to mother Non Treponemal and Treponemal Test Positive

• Should be evaluated with non treponemal test.
• IgM test can be recommended
• Look for evidence
  – Clinical
  – Pathologic exam with Fluorescent Antitreponemal antibody of placenta or umbilical cord
  – Dark field microscopy of lesion or bodyfluids (nasal)
Infant with proven or highly probable disease

- Abnormal physical examination
- RPR or VDRL 4X higher than Mother
- Positive dark field or fluorescent test of body fluid

SCREENING:
- Cerebral spinal Fluid: VDRL, Cell count, Protein
- CBC diff platelet
- Long bone Xrays
- Other as clinically indicated

TREATMENT: Peni G IV 50 000UI/kg/12h 7 days, then every 8h, 3 to 7 days
Infant normal exam, serum RPR same or less than Mother

- Mother adequately treated >4 weeks before delivery
- Mother no evidence of reinfection or relapse
- SCREENING:0
- TREATMENT, some will give single dose Benzathine penicillin G IM 50 000 UI/Kg
Our patient
Breast fed premature baby

• Risk of
Breast fed premature baby

- Risk of ZINC DEFICIENCY
- Mother changed her vitamins 2 months ago,
- No more ZINC in the new ones
Zinc Deficiency

• “Acrodermatitis enteropathica like Sd”

  – Periorificial dermatitis, diaper rash
  – Cranky baby
  – Diarrhea
Treatment of Zinc deficiency?
Treatment of Zinc deficiency?

• Give Zinc:
  
  – To the mother breast feeding
  – Or to the neonate 15 to 30 mg/day of Zinc element

  – Mother saw a rapid improvement when back to her previous vitamins, in 1 to 2 days!
  – Complete healing in 4 weeks.
Happy baby
Case 2
Unique plaque of “Eczema”? 

- 11 years old 
- Supposed to have had eczema “forever” 
- A unique well demarcated plaque on the ankle, no scales, 
- treated with topical steroids continuously.
Tinea incognito
Tinea incognito

• Steroid treated tinea
• Healing in the center
• Asymmetrical
• Symptoms improve but keeps enlarging++
Treatment

• Stop steroids
• Wait for scales and do a scraping
• Treat with lamisil topical
• Sometimes long lasting tinea incognito need oral Lamisil
Case 3

- 4 years old
- Annular rapidly progressive plaques of scalp with scales and extensive alopecia
- (no picture 😞)
Differential

• Very annular peripheral scales maybe atrophy?
• Tinea capitis
• Lupus more than lichen planopilaris
Microsporum canis

- Rare in North America
- Animal vector then human
- Much more inflammatory than trichophyton tonsurans
more than lichen planopilaris
Pustules on the scalp of a 5-year-old male.

Scarring alopecia after pustule treated with lamisil oral
Tinea Capitis in Infants


• Tinea Capitis in Infants
  Recognition, Evaluation, and Management Suggestions

• Brent D. Michaels, DOa and James Q. Del Rosso, DO, FAOCDb
Guidelines for the management of tinea capitis in children.

- Guidelines for the management of tinea capitis in children.
- Kakourou T, Uksal U; European Society for Pediatric Dermatology.
- Author information
- Abstract
- Practice guidelines for the treatment of tinea capitis (TC) from the European Society for Pediatric Dermatology are presented. **Tinea capitis always requires systemic treatment** because topical antifungal agents do not penetrate the hair follicle. Topical treatment is only used as adjuvant therapy to systemic antifungals. The newer oral antifungal agents including terbinafine, itraconazole, and fluconazole appear to have efficacy rates and potential adverse effects similar to those of griseofulvin in children with TC caused by Trichophyton species, while requiring a much shorter duration of treatment. They may be, however, more expensive (Grading of recommendation A; strength of evidence 1a). **Griseofulvin is still the treatment of choice for cases caused by Microsporum species.** Its efficacy is superior to that of terbinafine (Grading of recommendation A; strength of evidence 1b), and although its efficacy and treatment duration is matched by fluconazole (Grading of recommendation A; strength of evidence 1b) and itraconazole (Grading of recommendation A; strength of evidence 1b), griseofulvin is cheaper. It must be noted, however, that griseofulvin is nowadays not available in certain European countries (e.g., Belgium, Greece, Portugal, and Turkey).
Tinea capitis challenging treatment

- And expensive...
- Keep scraping until it comes negative
- F/u closely
Case 3

- 3 year old female with groin and inner thigh annular rash
- Treated with moisturizers and topical steroids
No scale, no itch

• Stopped any moisturiser, any treatment
• No scale no itch
• Differential:
  – Tinea (no scale?)
  – Other?
Granuloma annulare

• Benign annular dermal or subcutaneous annular plaque
Usual wrist and ankle
Bring home msg

• Treatment: topical efficient in kids
• Relation with insulino resistance, diabetes autoimmune disease
Bring home msg

• Give Zinc to breast feeding moms of premature babies
• Think of neonatal lupus neonatal syphilis too
MSG

• Scrape all suspicious scales of scalp
• Rescrape tinea capitis until negative
• See the whole family
• if microsporum canis , send pets to Vet
Granuloma annulare

• Look for insulin resistance
Thank you