Pregnancy Related Rashes

SIMPLIFYING PREGNANCY SPECIFIC SKIN CHANGES

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Assessment of any skin eruption

**Directed History**
- Duration
- Distribution & progression
- Exacerbating & relieving factors
- Associated symptoms
  - Itch, burn, pain, weeping
- Previous dermatological problems
- Family history of skin disorders
- Social history – job, travel
- Medical history – asthma, hayfever
- Drug history & allergies
- Previous treatments tried
- Impact on QOL

**Directed Exam**
- Site
- Symmetry
- Shape
- Size
- Surface
- Colour
- Margin
- Type of lesion
  - Papule
  - Pustule
  - Wheal
  - Vesicle
  - Bulla
Assessment of skin eruption in pregnancy – 4 QUESTIONS

① IS IT PHYSIOLOGICAL OR PATHOLOGICAL?

② IS IT A GENERAL DERMATOSE OR SPECIFIC TO PREGNANCY?

③ ARE ITS CONSEQUENCES ONLY MATERNAL OR IS THE FETUS AT RISK?

④ WHAT NEXT?
Is it physiological or pathological?

State of the skin in pregnancy is influenced by hormonal, immunological, hemodynamic, and physical changes.

Exact aetiology uncertain.

Changes in all aspects of skin structure:
- Pigmentation
- Connective tissue
- Glands
- Vasculature
Assessment of skin eruption in pregnancy

2. IS IT A GENERAL DERMATOSE OR SPECIFIC TO PREGNANCY?

Only 4 dermatoses specific to pregnancy

- Atopic eruption of pregnancy
- Polymorphic eruption of pregnancy
- Pemphigoid gestationis
- Intrahepatic cholestasis

Ambros-Ruldolp Mullegger et al
J Am Acad Dermatol 2006
Assessment of skin eruption in pregnancy

3. ARE THE CONSEQUENCES ONLY MATERNAL OR IS THE FETUS AT RISK?

- Atopic eruption of pregnancy
- Polymorphic eruption of pregnancy
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Assessment of skin eruption in pregnancy

WHAT NEXT?

- What further tests need to be done?...if any
- What treatments?...are they safe in pregnancy?
- When to refer?...to who?
Physiological skin changes...Pigmentation

Linea nigra
- Most common skin change
- Darkening of linea alba
- Runs along midline from pubis to umbilicus but can extend to abdomen
- Usually reverts to normal postpartum – but not always
Physiological skin changes...Pigmentation

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Physiological skin changes...Pigmentation

- **Melasma**
  - Up to 75% pregnancies
  - T2 and T3
  - Persist months --> years postpartum
  - Treatment difficult: topical bleaching, retinoids, steroids, chemical peels, laser ...But not in pregnancy
  - Avoidance best: broad spectrum sunscreen, avoid excessive sunlight exposure
Physiological skin changes...Pigmentation

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Physiological skin changes...Connective Tissue

- Striae gravidarum
  - Linear red-purplish area, fade to thin, atrophic, hypopigmented scars
  - Stretching of the skin and rupture of dermal elastic fibers
  - Abdomen, breast, thigh, buttock
  - Irreversible
  - No proven method to prevent or remove, including vitamin E cream, tea tree oils, bio-oil, laser
  - Local tetinoin cream may improve appearance, evidence conflicting
Miliaria
- AKA sweat rash
- Increased eccrine gland activity in pregnancy
  - Excessive sweating: Hyperhidrosis
  - Obstruction of gland
- Typically in skin folds and areas of friction from clothing
- Not around hair follicles (folliculitis)
- Can have pustules if inflammation / bacterial infection
- Symptomatic tx
  - Avoid sweating: - airconditioner / less clothing / ventilation
  - Avoid irritation – friction from clothes
  - Cold water compress
  - Low potency topical steroids
Physiological skin changes...
Gland Changes

- **Pregnancy acne**
  - The affect of pregnancy on acne is variable: may increase T3
  - Sebaceous gland secretion increased in third trimester

- **Absence of tx safety data**
  - Topical benzoyl peroxide safe
    - Not in combination with topical retinoid (Epiduo)
  - Topical antibiotics
  - Oral erythromycin

- **UNSAFE**
  - Topical retinoids
  - High concentration salicylic acid
  - Isotretinoin
Physiological skin changes...

Vascular changes

- **Spider angiomas / naevi**
  - Increased oestrogen causing dilatation, congestion and proliferation of blood vessels
  - More common in fair skin
  - Predominantly face, neck, face, upper chest, hands and arms
  - Appear T2, usually resolve 3/12 postpartum
  - If multiple exclude pathological causes: liver disease, malnutrition
Atopic Eruption of Pregnancy
AKA Pruritic folliculitis OR Prurigo OR Eczema in pregnancy

- On history
  - Common – 1 in 300
  - No personal history – 1st presentation of atopic skin changes in pregnancy
  - FHx of atopy: eczema, asthma, seasonal allergies
  - Early onset – 12 weeks, 75% before 3rd trimester
  - Resolves postpartum
Atopic Eruption of Pregnancy
AKA Pruritic folliculitis OR Prurigo OR Eczema in pregnancy

- On Examination
  - Any erythematous, excoriated, inflammatory condition
  - May include solid, raised lesions; papules or nodules
  - May affect face, neck, chest and flexor surfaces of the limbs and trunk
Atopic Eruption of Pregnancy
AKA Pruritic folliculitis OR Prurigo OR Eczema in pregnancy

- Effect of fetus: BENIGN
  - NO adverse effect on Fetus

- Diagnosis
  - Based on clinical presentation
  - Requires no further investigation as long as other dermatoses of pregnancy have been ruled out

- Differential diagnosis
  - Polymorphic eruption of pregnancy
  - AEP: Earlier onset / skin flexures / no urticarial plaques in striae
Atopic Eruption of Pregnancy  
AKA Pruritic folliculitis OR Prurigo OR Eczema in pregnancy

- Treatment is symptomatic
  - Maintain adequate skin hydration
    - Sorbelene to wash and moisturise
  - Avoid aggravating factors
    - Heat / tight clothing / straps
  - Topical corticosteroids: limited safety data
    - Low birth weight with high potency steroids
    - Prefer low to mid potency
      - Hydrocortisone 0.1% – Ointment /Cream / Lotion
      - Betamethasone valerate 0.1% - cream
      - Betamethasone dipropionate (Diprosone) 0.05 – Lotion
  - Oral antihistamine: Limited safety data
    - Second generation antihistamines preferred, less sedating and fewer cholinergic side effects
      - Loratadine 10mg 1-2/day or Cetirizine 10mg 1-2/day
Atopic Eruption of Pregnancy
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- When to refer?
  - Uncertain diagnosis ➔ to Obstetrician
  - Resistant to treatment ➔ to Dermatologist
Polymorphic Eruptions of Pregnancy
AKA PUPPS  OR Toxic Erythema

- On history
  - Most common dermatose specific to pregnancy 1:160 – 1:300
  - Onset T3, rarely postpartum
  - Resolves post delivery
  - Increased in nulliparous, multiple pregnancy, polyhydramnios
    - Over distension → ??? damage to CT provoking inflammatory response
  - Rare to recur in subsequent pregnancies
On examination

- Small, pink, raised spots (papules),
- Begin within abdominal striae, around umbilicus with peri-umbilical sparing
- Papules coalesce to form large, red, raised (urticarial) patches (plaques)
- Progresses to trunk and extremities
- Sparing palms, soles and face
- It is very itchy (pruritic)
Polymorphic Eruptions of Pregnancy
AKA PUPPS OR Toxic Erythema

- Effect on fetus: BENIGN
  - NO adverse effect on fetus

- Diagnosis
  - Based on clinical presentation
  - Requires no further investigation as long as other dermatoses of pregnancy have been ruled out
  - Skin biopsy if no response to initial treatment or uncertain dx

- Differential diagnosis
  - Atopic eruptions of pregnancy
  - PEP: Later onset / urticarial plaques in striae / spare umbilicus, hands and feet
Polymorphic Eruptions of Pregnancy
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- Treatment is symptomatic
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Pemphigoid Gestationis
AKA Herpes gestationis or pregnancy-related bullous pemphigoid
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- **Features**
  - Autoimmune blistering disorder
  - Result of antibodies against target antigen...proteins of placenta and skin
  - Very rare – 1:1700 to 1:50 000
  - Any time after T2
  - Improves toward delivery but 75% flare at time of delivery
  - Postnatal flares can occur but usually resolve within 2-6 weeks
  - Can recur
    - In subsequent pregnancy: earlier onset and more severe
    - When periods commence
    - With use of OCP
Pemphigoid Gestationis
AKA Herpes gestationis or Pregnancy-related bullous pemphigoid

- On examination
  - Appear around umbilicus as urticarial papules – itchy red bumps
  - Extends to involve truck, back, buttocks, arms. Less commonly palms and soles - mucosal sparing
  - After 2-4 weeks join to form bulla - large tense fluid filled blisters
    - Around edge of rash or in unaffected areas
    - May have no blisters just plaques – large raised patches
Pemphigoid Gestationis
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- Effect on fetus: YES
  - Associated IUGR
  - Growth surveillance required
  - Conflicting evidence regarding risk of pre-term labour
  - Lesions of neonate
    - Mild, self-limiting lesions
    - 1:10 affected
    - Passive transfer of antibody to fetus
Pemphigoid Gestationis
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- **Diagnosis**
  - Clinical picture
  - Skin biopsies peri-lesional skin x2
    - 1 for histology
    - 1 for direct immunofluorescence studies

- **Differential diagnosis**
  - Can initially resemble the plaques of polymorphic eruptions of pregnancy
  - PG: umbilicus not spared, develops into blisters
Pemphigoid Gestationis
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- **Treatment:** with dermatologist / obstetric physician
  - Topical corticosteroids
  - Antihistamines
  - Oral corticosteroids: If resistant symptoms
    - Prednisolone 30-40mg (0.5mg/kg): decrease by 5mg every 3 days
    - Increase/reintroduce week before delivery to prevent flare
    - Glucose + electrolyte monitoring during treatment
  - Cyclosporin
    - Safe in pregnancy
    - Not breastfeeding: immunosuppression and neutropenia in baby
  - Immunophoresis

- **Treatment:** obstetrician
  - Fetal growth surveillance
  - Timed delivery – based on fetal growth + symptom control + allow plan steroid increase
  - IV hydrocortisone in labour
Pemphigoid Gestationis
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- When to refer – At suspicion
  - Close collaboration between obstetrician, dermatologist and obstetric physician required
Pemphigoid Gestationis

AKA Herpes gestationis or pregnancy-related bullous pemphigoid
Intrahepatic cholestasis of pregnancy
AKA Obstetric cholestasis OR Jaundice of pregnancy OR Pruritis gravidarum
Intrahepatic cholestasis of pregnancy
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- Pruritis in the absence of skin rash with elevated bile acids, where no alternative cause can be found and resolve after birth

- Only pregnancy dermatose without primary skin changes
  - Presents with itching → secondary skin changes

- Exact mechanism unclear
  - Genetic predisposition influences sensitivity to hormonal and environmental factors
  - Oestrogen appears to be main precipitant
  - Results in build up of bile acids in bloodstream
Intrahepatic cholestasis of pregnancy
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- On history
  - Intense pruritis – begins palms and soles, spreading to extremities, worse at night
  - Onset T3 – oestrogen synthesis by placenta peaks
  - Resolves postpartum
  - Ethnicity
    - 0.7% in multi-ethnic population
    - 1.5% Indian-Asian or Pakistani-Asian
  - Personal hx gallstones or prurtiis while taking OCP
  - FHx IHC or gallstones
  - Dark urine / pale stools – rare
Intrahepatic cholestasis of pregnancy
AKA Obstetric cholestasis OR Jaundice of pregnancy OR Pruritis gravidarum

- On Exam
  - Non-specific changes to skin: dermatographia artefacta
  - Jaundice - rare
    - If occurs will be after onset of itching
    - MUST exclude other causes
Intrahepatic cholestasis of pregnancy
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- **Diagnosis**
  
  - Bile acid levels: elevated pregnancy specific levels
    
    - Perform fasting: Normal increase post-prandial 1-2μmol/L
    
    - Increased fetal risk associated with >40μmol/L (Glanz et al)
  
  - Liver function tests
    
    - AST and ALT: elevated, pregnancy specific levels
    
    - Increased fetal risk associated with ALT>200
    
    - Increased ALP is normal in pregnancy: produced by placenta

- **IF PERSISTING PRUTIIS BUT NORMAL BILE ACIDS REPEAT EVERY 2 WEEKS**
Intrahepatic cholestasis of pregnancy
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- Differential diagnosis: Exclude other causes
  - Other causes of itch
    - Atopic & Polymorphic eruptions of preg & Pemphigoid
  - Other causes of abnormal LFTs
    - Viral screen: Hep A, B, C, EBV, CMV,
      - If jaundice and dark urine
    - Liver autoimmune screen
      - Family history of autoimmune disorder
      - Primary biliary cirrhosis - AntiSm, Anti LKM
      - Chronic active hepatitis –Anti mitochondrial
    - Liver ultrasound
      - Obstructive gallbladder disease
    - Pre-eclampsia and acute fatty liver of pregnancy
Intrahepatic cholestasis of pregnancy
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- **Effect on fetus**: Debated
  - Overall increased fetal morbidity & mortality (Rook et al 2012)
  - Intrauterine fetal demise: small, difficult to predict
    - Increased risk with increased gestation, bile acid & LFT abnormality
    - Suggested cut offs: >37/40, BA >40, ALT > 200 (limited evidence to support these)
  - Pre-term labour – spontaneous and iatrogenic
  - Intra-partum complications
    - Meconium stained liquor
    - Fetal distress
    - Caesarean
    - PPH
Intrahepatic cholestasis of pregnancy
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- Management Mum – Control itch
  - Ursodeoxycholic acid
    - Begin 250mg tds, increase to 750mg qid
    - No evidence reduce perinatal morbidity or mortality
    - No confirmation of fetal/neonatal safety
  - Antihistamine
    - Non-sedating: Certizine 10mg 1-2/day
    - Sedating: Prometazine 10mg tds
  - Keri lotion / Pine tarsal solution / Bicarbonate of soda baths

SA Perinatal Practice Guidelines
Intrahepatic cholestasis of pregnancy
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Management Fetus – IUFD vs Prematurity

- Consultant obstetrician led care
- Monitor fetal wellbeing – No proven method or benefit
  - Report decreased movements
  - CTG monitoring – twice/week
- Bile acids & LFT twice/week
  - If BA>40, ALT >200 consider admission for close monitoring
- Coagulation studies: Prothrombin time increased
  - Check after diagnosis and before induction of labour
  - If prolonged treat with vitamin K 10mg/day prior to delivery
- Plan delivery around 38 weeks
- Consider amniocentesis for fetal lung maturity and meconium
  - If worsening cholestasis and <37 weeks
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- When to refer
  - At suspicion or diagnosis - Obstetrician
Assessment of skin eruption in pregnancy – 4 QUESTIONS

1. **IS IT PHYSIOLOGICAL OR PATHOLOGICAL?**

2. **IS IT A GENERAL DERMATOSE OR SPECIFIC TO PREGNANCY**
   - Only 4 dermatoses unique to pregnancy
     1. Atopic eruption of pregnancy
     2. Polymorphic eruption of pregnancy
     3. Pemphigoid gestationis
     4. Intrahepetic cholestasis of pregnancy

3. **ARE ITS CONSEQUENCES ONLY MATERNAL OR IS THE FETUS AT RISK?**

4. **WHAT NEXT?**