Dermatosis of pregnancy

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Background
Goals and Objectives

• The purpose of this lecture is to help develop a clinical approach to the evaluation and initial management of patients presenting with specific dermatoses of pregnancy
Goals and Objectives

• We will learn how to:
  • Identify and describe the morphology of specific dermatoses of pregnancy
  • Know which dermatoses of pregnancy carry risks for the mother and the fetus
  • Explain basic principles in the diagnosis and treatment of specific pregnancy dermatoses
Classification

- Pruritic urticarial papules and plaques of pregnancy (PUPPP)
- Pemphigoid gestationis
- Atopic eruption of pregnancy
- Intrahepatic cholestasis of pregnancy
Why is it so important?

• Happens only in pregnancy
• Risk for the mother and the fetus
• A distinction between dermatological diseases that happen to occur while the patient is pregnant versus specific dermatoses of pregnancy
Pruritic Urticarial Papules and Plaques of Pregnancy: PUPPP
Pruritic Urticarial Papules and Plaques of Pregnancy: PUPPP

- Polymorphic eruption of pregnancy (PEP)
- The most common dermatosis of pregnancy
- Incidence: 1 in 300 pregnancies
- Onset during 3rd trimester (mean = 35 weeks)
- Predominantly affects primigravids
PUPPP: Pathogenesis

- Unclear
- Leading theory: Abdominal wall distention
  - Primigravids
  - Multiple gestation pregnancies
- Hormonal, immunological, and paternal factors may also play a role
PUPPP: Clinical findings

- The eruption starts within the **abdominal striae** (with periumbilical sparing)
- Typical lesions are erythematous urticarial papules surrounded by a pale halo
- Less commonly, PUPPP can present with blisters and the umbilicus may be involved
- The face, palms, and soles are usually spared
PUPPP: Clinical findings
PUPPP: Evaluation

- History and clinical picture (Itching abdomen, striae are “bumpy”)
- A biopsy is rarely helpful in diagnosing PUPPP. It does, however, rule out pemphigoid gestationis, which is an important differential diagnosis
- If atypical presentation, refer to dermatologist
PUPPP: Prognosis

- No known fetal risks
- Excellent prognosis
- Resolves within days postpartum
- No reports of recurrence postpartum, with menses, or with use of oral contraceptives
PUPPP: Treatment

• Aimed at symptomatic relief:
  - Oral antihistamine
  - Topical steroids
  - Oral Steroids in severe cases
Pemphigoid gestationis
Pemphigoid gestationis

- Herpes gestationis
- MOST important dermatosis to exclude
- Autoimmune blistering disease
- Incidence: 1 in 10,000-50,000 pregnancies
- Starts in 2nd or 3rd trimester (mean onset = 21 weeks)
Pemphigoid gestationis: Clinical findings

- Involves the umbilicus in 50% of cases
- Presents as pruritic urticarial papules and plaques/vesicles/bullae
- May also occur in presence of choriocarcinoma and with hydatidiform mole
Pemphigoid gestationis: Clinical findings
Pemphigoid gestationis: Evaluation

- Histopathology often helps with the diagnosis.
- H&E findings include a Subepidermal blister containing predominantly eosinophils.
Pemphigoid gestationis: Evaluation

- Direct immunofluorescence provides a definitive diagnosis with findings of a linear band of C3 with +/- IgG at the basement membrane zone.
Pemphigoid gestationis: Complications

- The primary site of autoimmunity seems to be the placenta, as antibodies bind not only to the basement membrane zone of the epidermis, but also to that of chorionic and amniotic epithelia, both of ectodermal origin.
Pemphigoid gestationis: Complications

- Premature delivery 20-30%
- Small for-gestational age (SGA) infants (20%)
- Blisters in the neonate (5-10%)
- Small risk of autoimmune thyroiditis for the mother
Pemphigoid gestationis: Prognosis

- Often a flare at the time of delivery (75% of cases)
- Recurrence with later pregnancies is common
- Pemphigoid gestationis can start postpartum (20% of cases)
- Recurrence with menses or OCP use has been reported but is rare
Pemphigoid gestationis: Treatment

- Goals of treatment:
  - Decrease blister formation
  - Promote the healing of blisters and erosions
  - Relieve pruritus

- high-potency topical corticosteroids (Clobetazol, Betamethasone)

- Use of systemic steroids
# Pemphigoid gestationis VS. PUPPP

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<thead>
<tr>
<th></th>
<th>Pemphigoid gestationis</th>
<th>PUPPP</th>
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<tbody>
<tr>
<td><strong>ONSET</strong></td>
<td>2\textsuperscript{nd} or 3\textsuperscript{rd} trimester</td>
<td>3\textsuperscript{rd} trimester</td>
</tr>
<tr>
<td><strong>BLISTERS</strong></td>
<td>common</td>
<td>rare</td>
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<tr>
<td><strong>BIOPSY/IF</strong></td>
<td>diagnostic</td>
<td>non-diagnostic</td>
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<tr>
<td><strong>FETAL RISKS</strong></td>
<td>SGA, preterm, blisters</td>
<td>none</td>
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<tr>
<td><strong>RECURRENCE</strong></td>
<td>yes</td>
<td>no</td>
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Atopic Eruption of Pregnancy
Atopic Eruption of Pregnancy

- Atopic eruption of pregnancy is a term that encompasses other pruritic inflammatory dermatoses which appear or worsen during pregnancy:
  - Atopic dermatitis in pregnancy
  - Prurigo of pregnancy (Besnier)
    - Prurigo = intensely itchy papules
  - Pruritic folliculitis of pregnancy
    - Pruritic folliculitis = itchy inflammation around the hair follicle
Atopic Eruption of Pregnancy

- Eczematous in 2/3 and prurigo type in 1/3
- Starts earlier in pregnancy (mean=18 weeks)
- 80% of patients have a previous history of atopic dermatitis while 20% do not
Atopic Eruption of Pregnancy: Evaluation

- AEP is a clinical diagnosis
- Histopathology is non-specific
- Immunofluorescence is negative
Atopic Eruption of Pregnancy: Prognosis

- Benign disease and does not carry increased maternal or fetal risks
- The eruption may persist after pregnancy as a chronic dermatitis.
Atopic Eruption of Pregnancy: Treatment

- Treatment is largely dependent on controlling the eruption with topical steroids
- Oral steroids can be used in recalcitrant cases
- If the eruption does not respond to topical steroids, referral to dermatology is recommended
Intrahepatic cholestasis of pregnancy (CP)
Intrahepatic cholestasis of pregnancy

- Accounts for 20% of obstetric jaundice
- Presents with:
  - Generalized pruritus +/- jaundice; less likely only palms and soles
  - Absence of primary lesions; may have secondary excoriations
  - Biochemical abnormalities consistent with cholestasis
  - No history of hepatitis or hepatotoxic drugs
Intrahepatic cholestasis of pregnancy: pathophysiology

• Not completely understood
• Likely involves:
  - Genetic susceptibility
  - Hormonal factors
  - Environmental factors
Intrahepatic cholestasis of pregnancy: pathophysiology

• Increased levels of estrogen which inhibit reuptake of bile acids into hepatocytes and inhibit bile transport proteins
• Altered metabolism of progesterone
• Genetic factors
Intrahepatic cholestasis of pregnancy: Evaluation

• Although bilirubin, transaminases, and alkaline phosphatase may be elevated, the hallmark of CP is elevation of serum bile acids
• In late pregnancy, serum bile acids can be
• slightly elevated and not be problematic.
Intrahepatic cholestasis of pregnancy: Complications

- Maternal bile acids cross the placenta and can accumulate in the fetal compartment, which carries significant risk for the fetus
  - Intrauterine demise
  - Meconium-stained amniotic fluid
  - Preterm delivery (spontaneous and iatrogenic)
  - Nonatal respiratory distress syndrome
Intrahepatic cholestasis of pregnancy: Complications

- Predictive value of maternal bile acid level
  - Bile acid level $\geq 40$ micromol/L
  - Bile acid level $\geq 100$ micromol/L
Intrahepatic cholestasis of pregnancy: Treatment

• Most publications recommend early induction of labor, commonly at 37 to 38 weeks

• Ursodeoxycholic acid
  - Considered 1st-line treatment
  - Reduction in: pruritus, bile acid levels, premature birth, fetal distress, NICU admission
  - Increase in: Gestational age and birth weight
Pregnancy and pruritus

With Skin lesions

Not Specific for pregnancy
- Coincidental Dermatosis
  - Trunk and Extremities
    - AEP

Specific for Pregnancy
- Early (before) 3rd trimester
  - Predominantly the Abdomen
    - Urticaria vesicular
      - PUPPP

- Late (3rd trimester) Postpartum
  - Predominantly the Abdomen
  - Papular Urticaria
    - PG
    - CP

Without Skin lesions

Increased Serum Bile Acids
Thank you