Dermatosis of pregnancy

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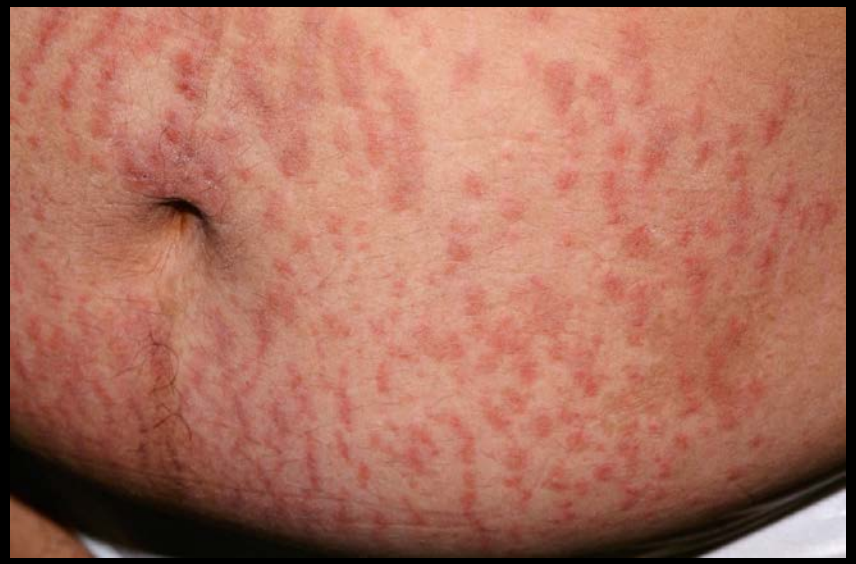
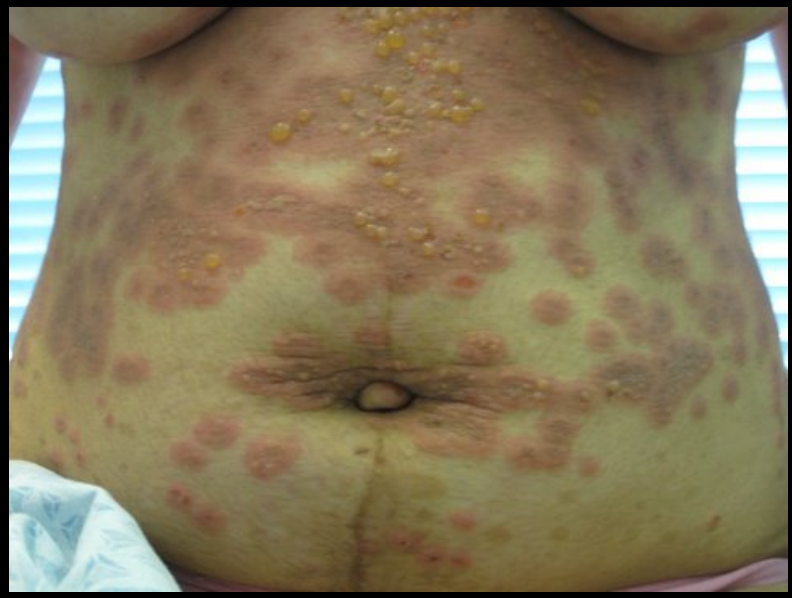
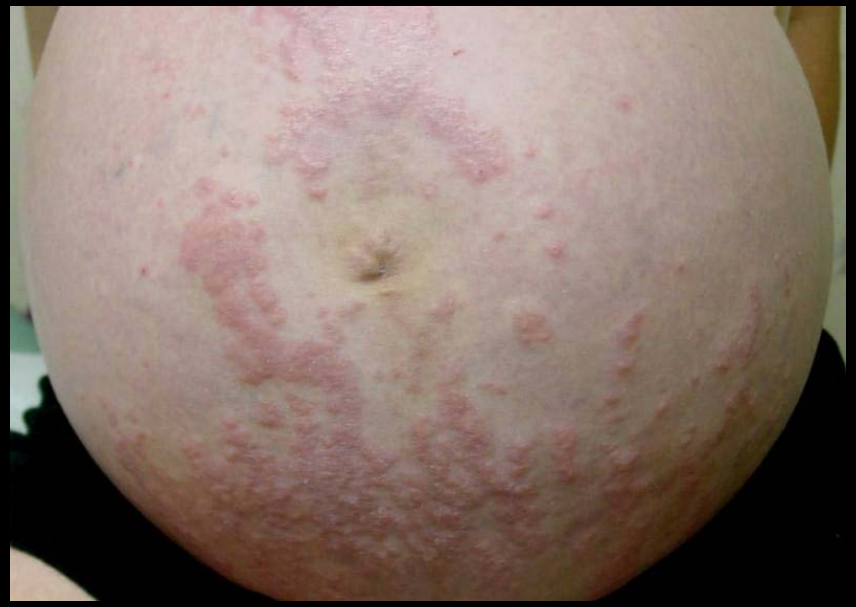
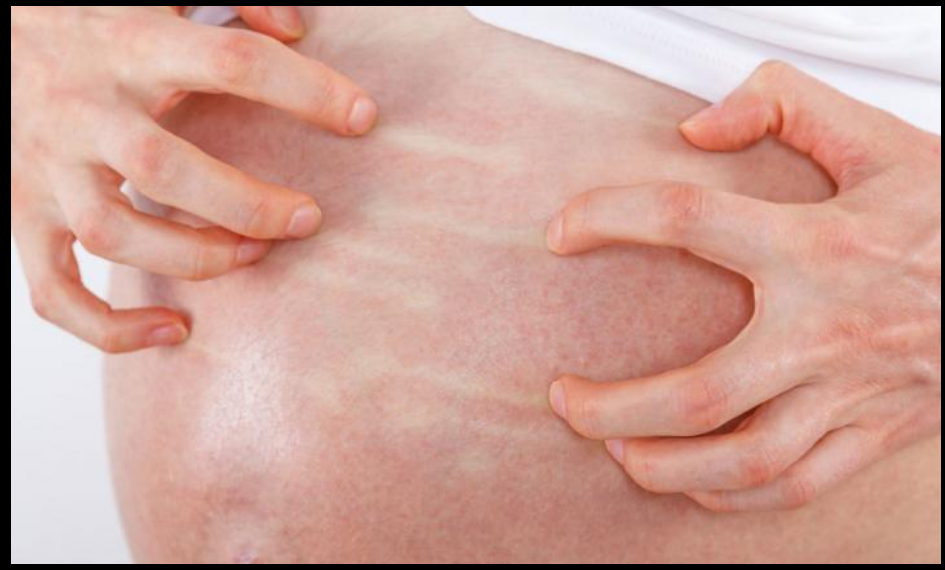
Background









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

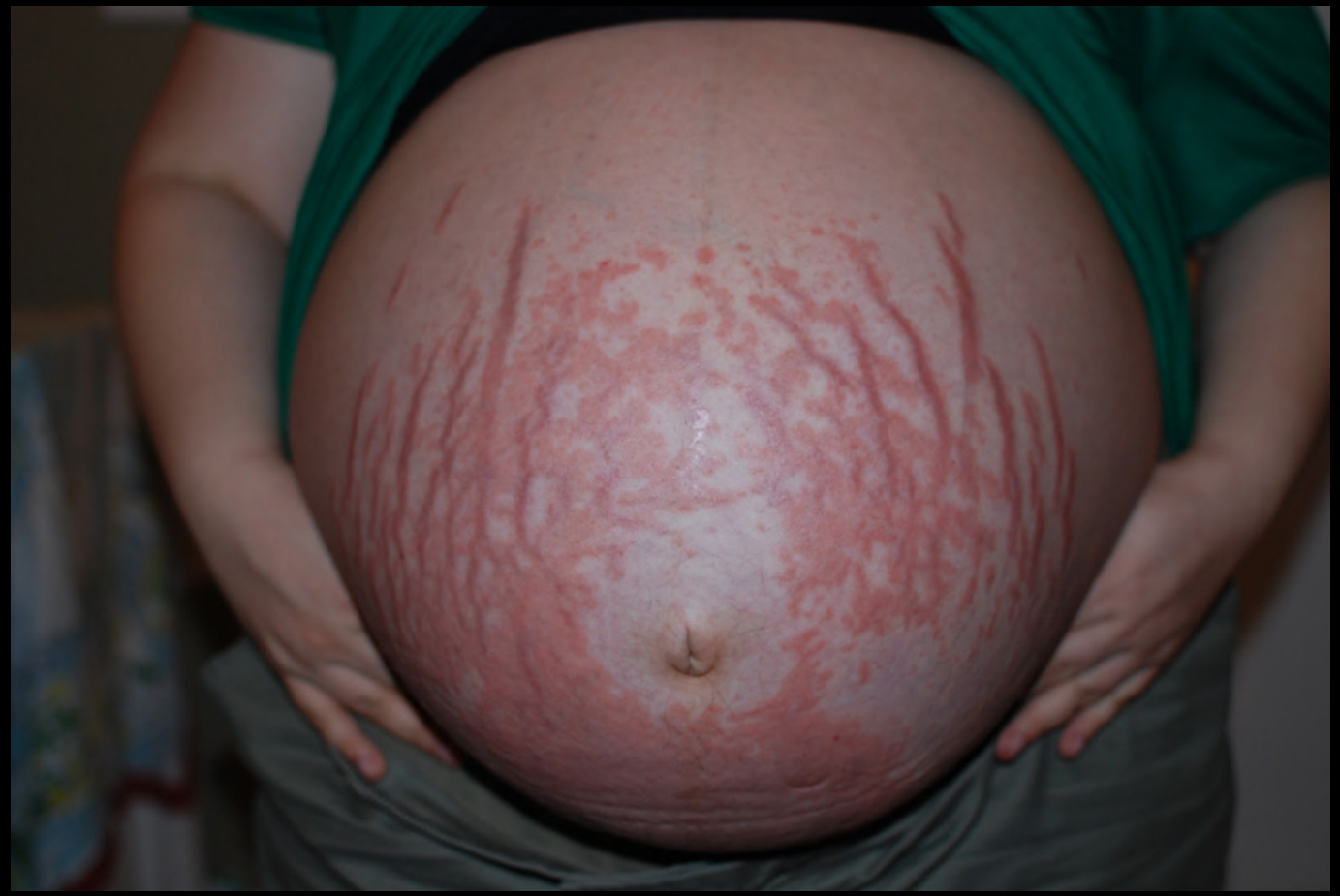
Classification

- 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



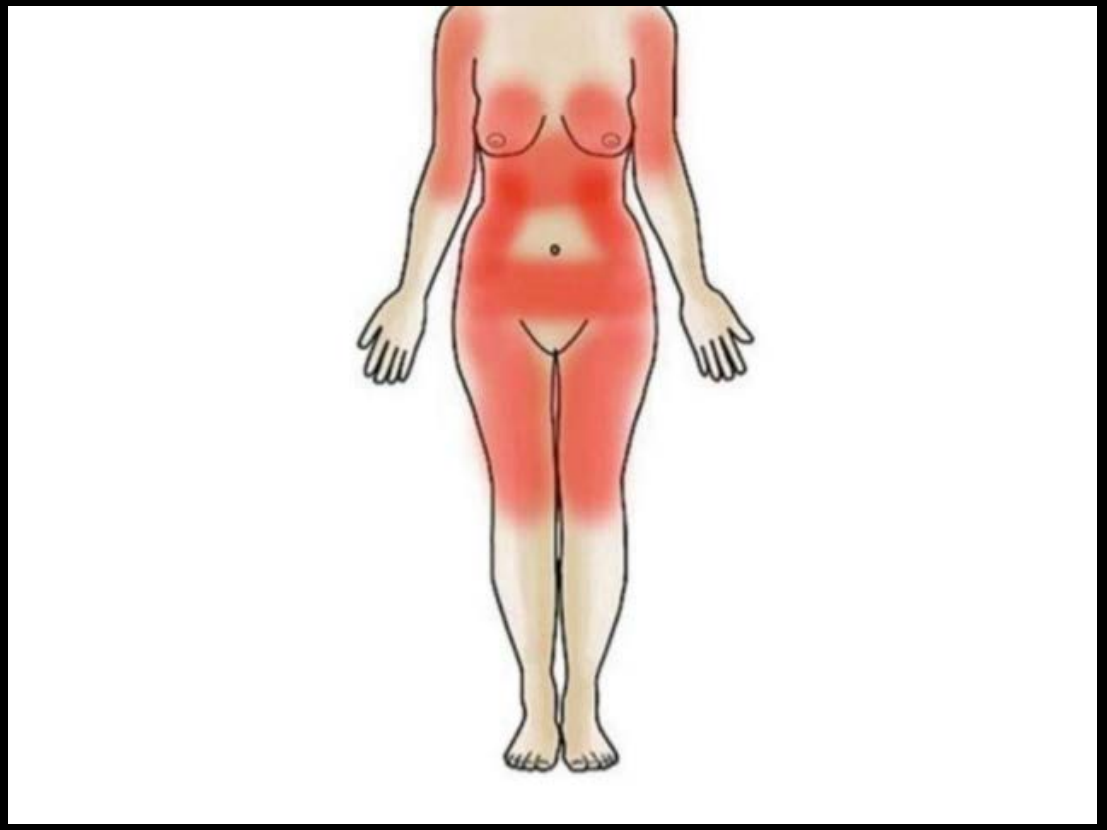
Pruritic Urticarial Papules and Plaques of Pregnancy: PUPPP

- 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

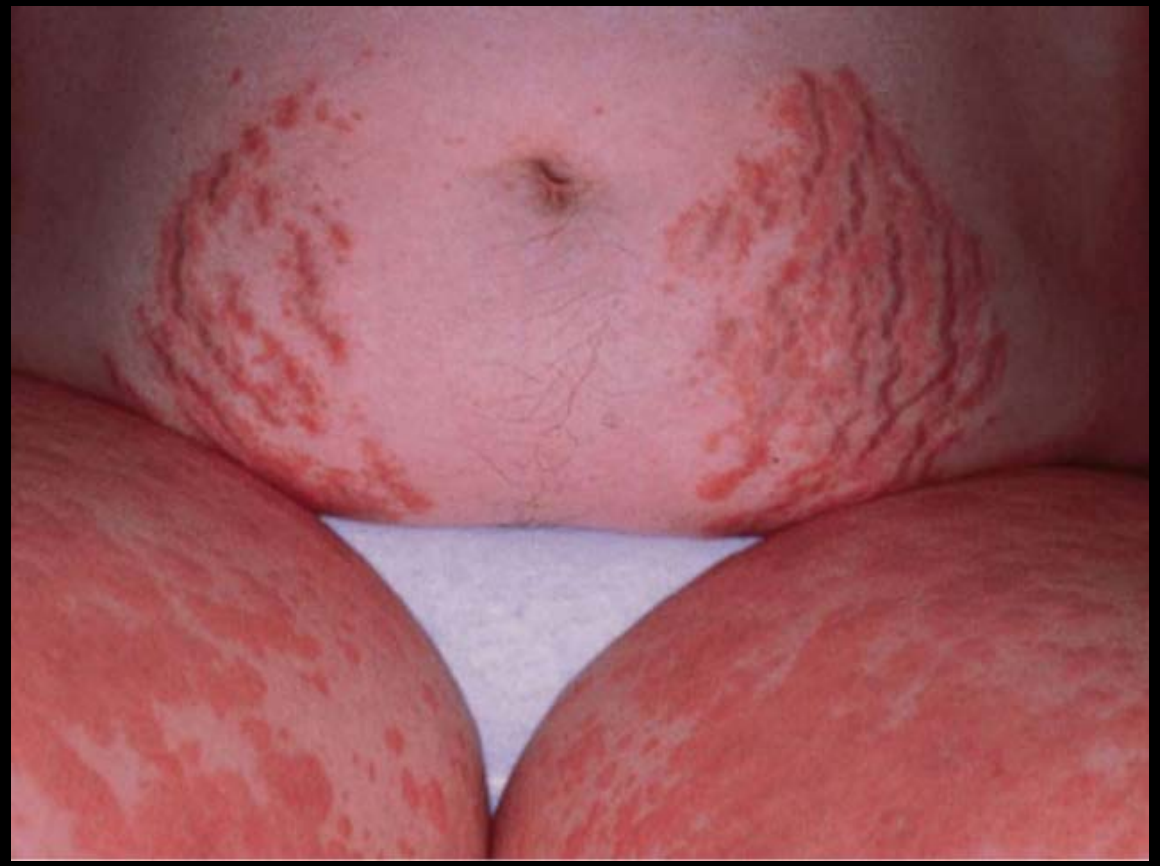
- Unclear
- Leading theory : Abdominal wall distention
  - Primigravids
  - Multiple gestation pregnancies
- Hormonal, immunological, and paternal factors may also play a role

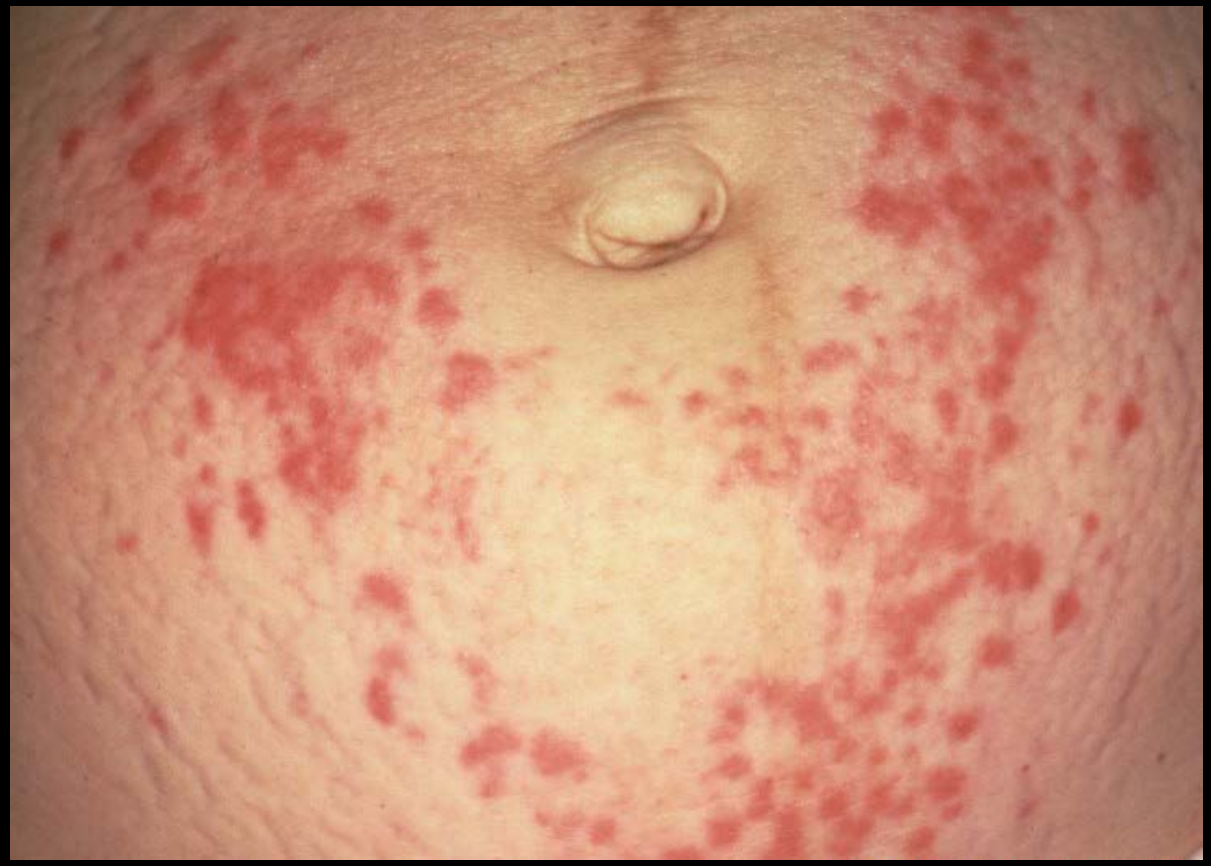
PUPPP: Clinical findings



- 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

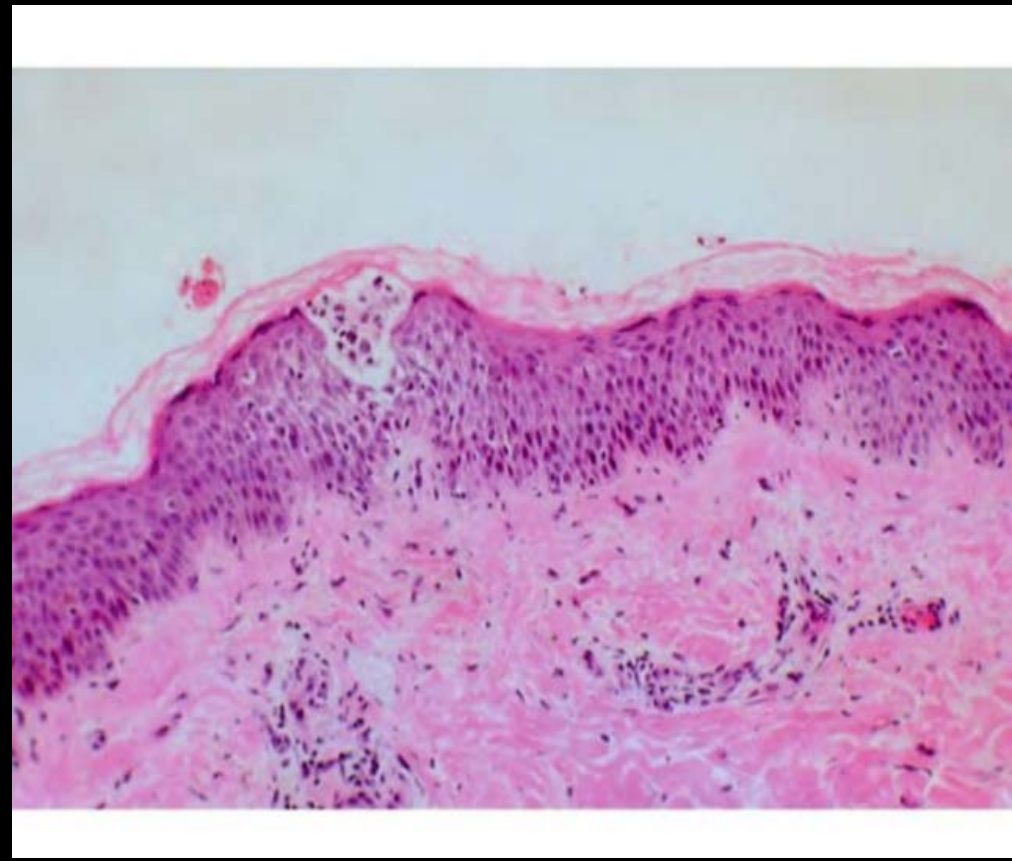
PUPPP: Clinical findings





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



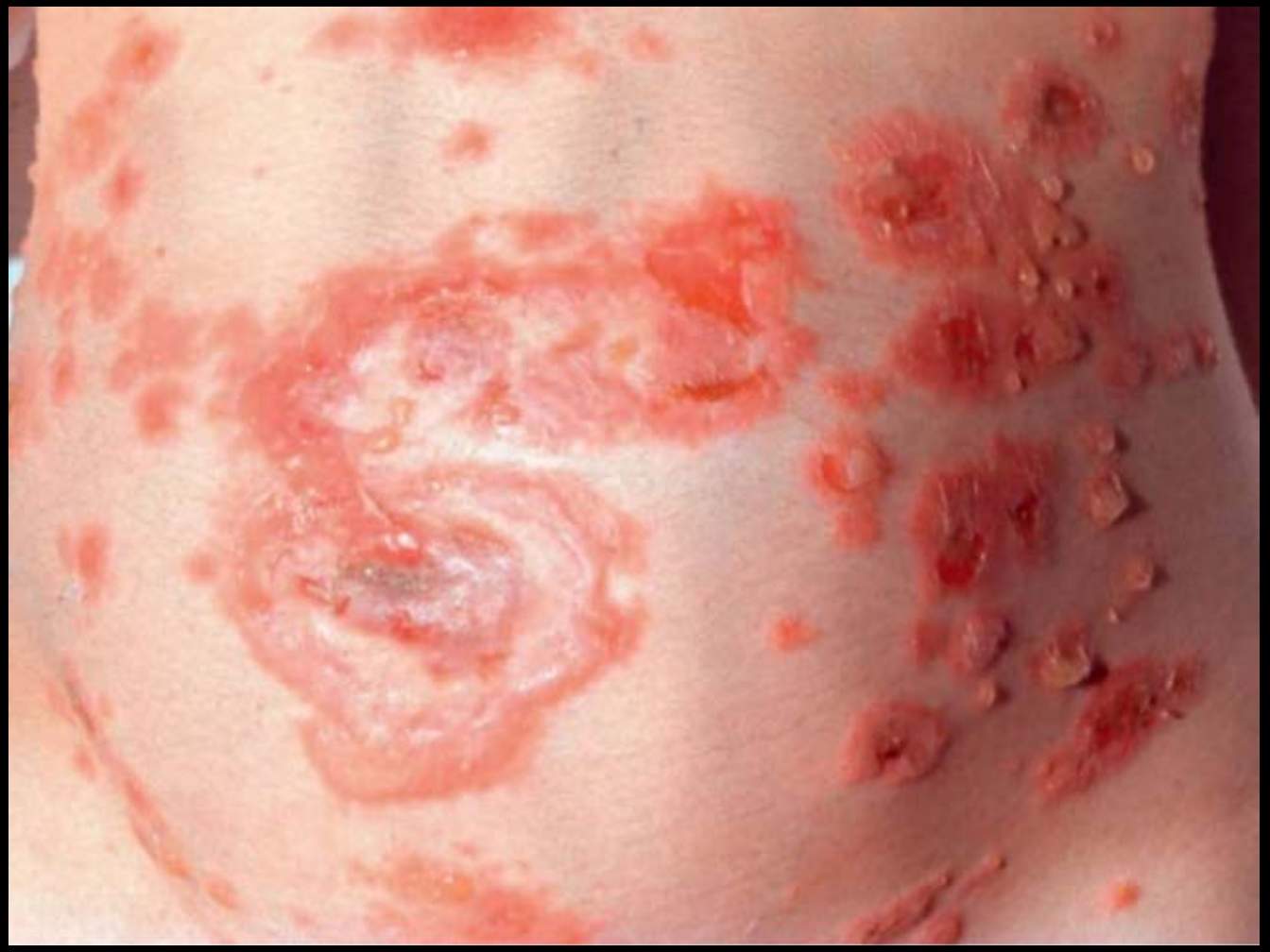
PUPPP: Prognosis

- 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

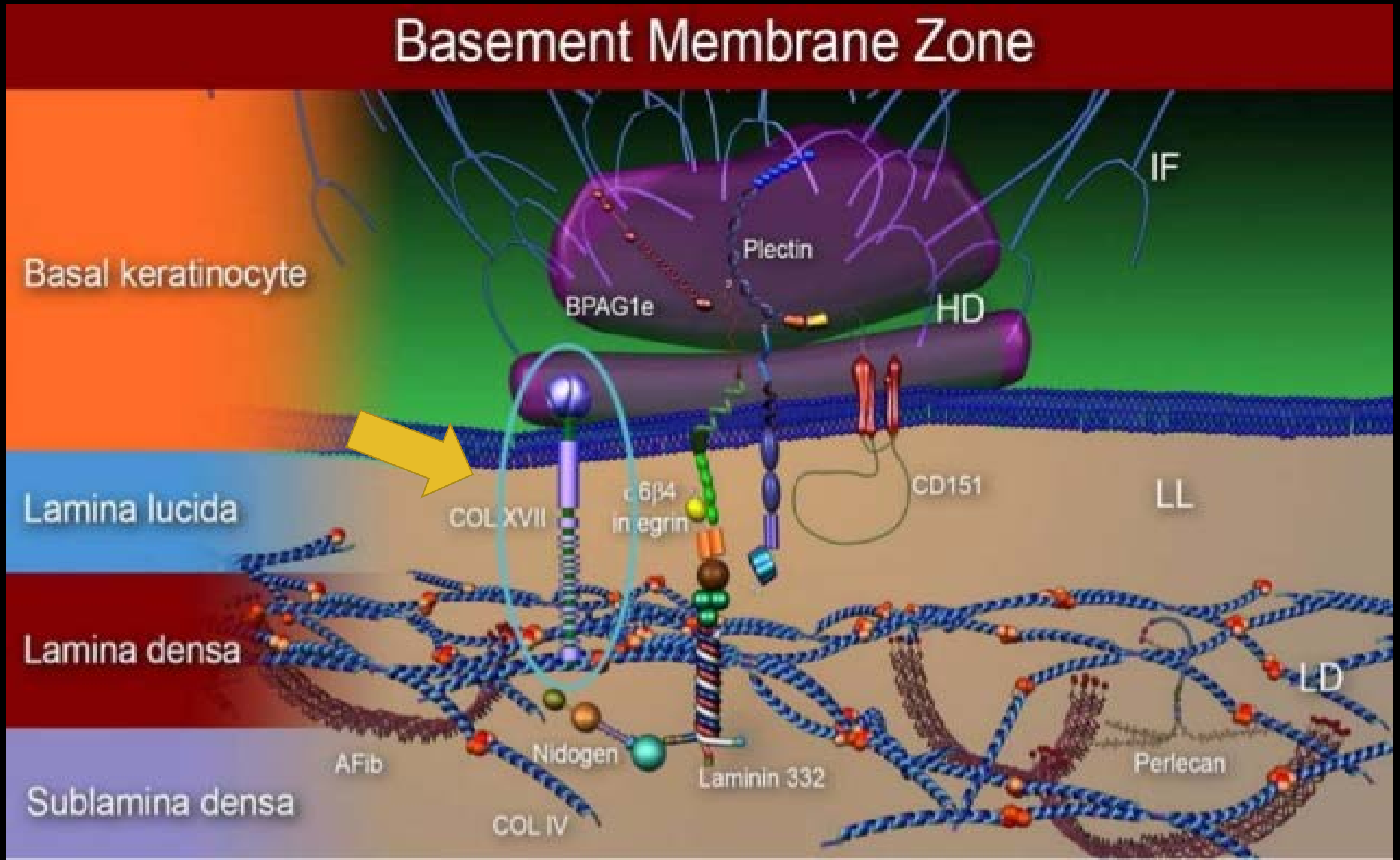
- Aimed at symptomatic relief:
  - Oral antihistamine
  - Topical steroids
  - Oral Steroids in severe cases

Pemphigoid gestationis

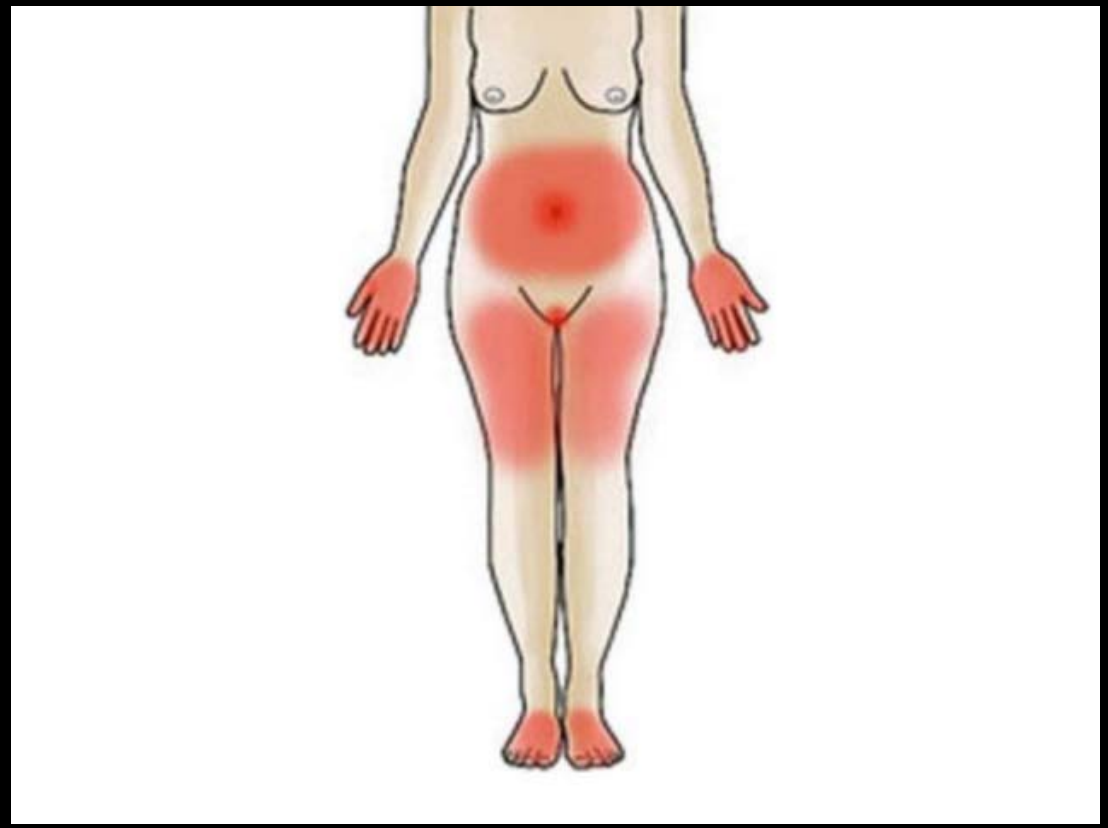


Pemphigoid gestationis

- 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)

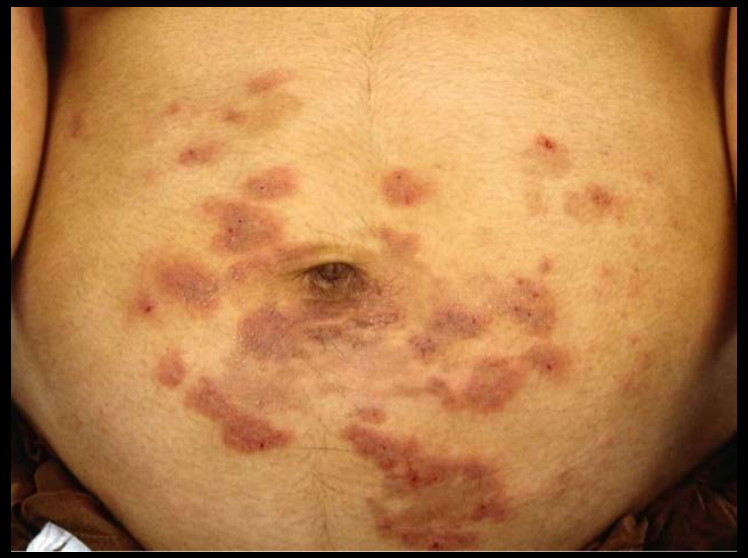

Basement Membrane Zone
Basal keratinocyte
Lamina lucida
Lamina densa
Sublamina densa
IF
Plectin
BPAG1e
HD
CD151
LL
COL XVII
α6β4
integrin
LD
AFib
Nidogen
Laminin 332
Perlecan
COL IV

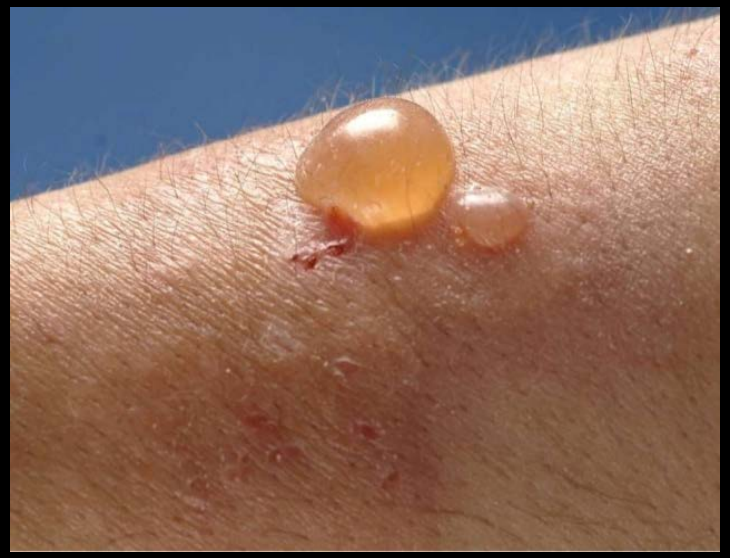
Pemphigoid gestationis: Clinical findings

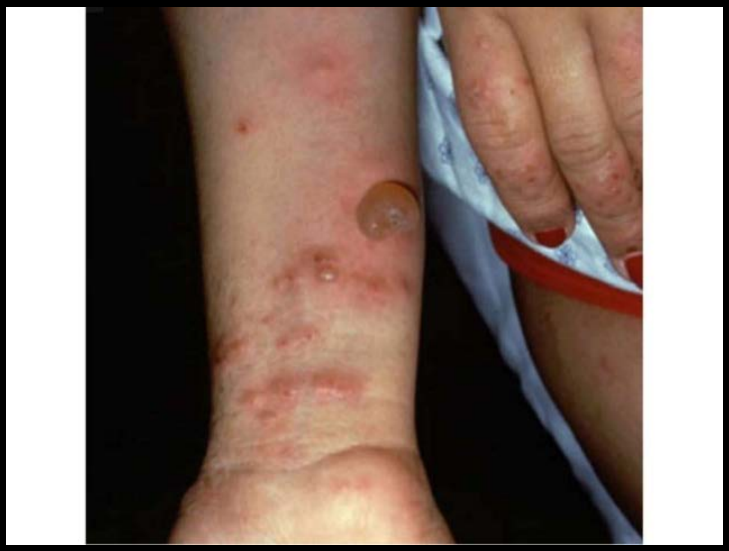


- Involves the umbilicus in 50% of cases
- Presents as pruritic urticarial papules and plaques/vesicles/bullae
- May also occur in presence of choriocarcinoma and with hydatidiform mole

Pemphigoid gestationis: Clinical findings

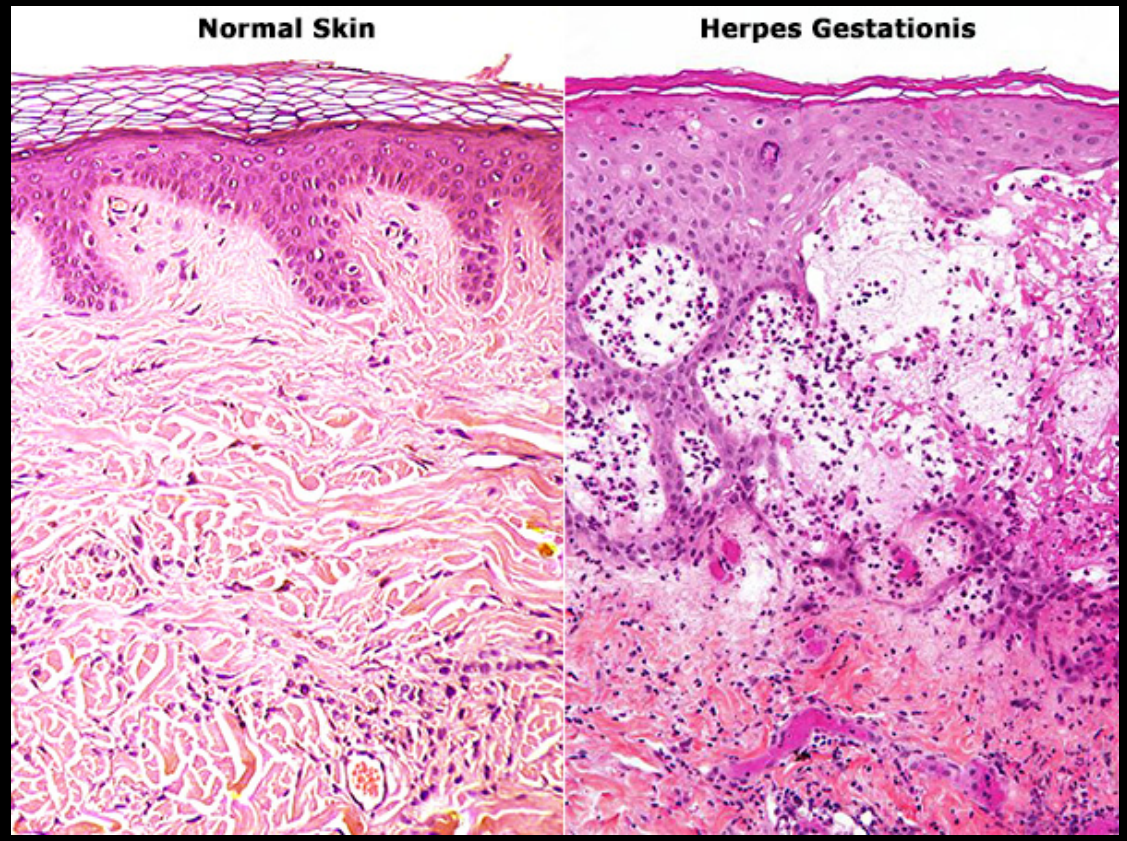






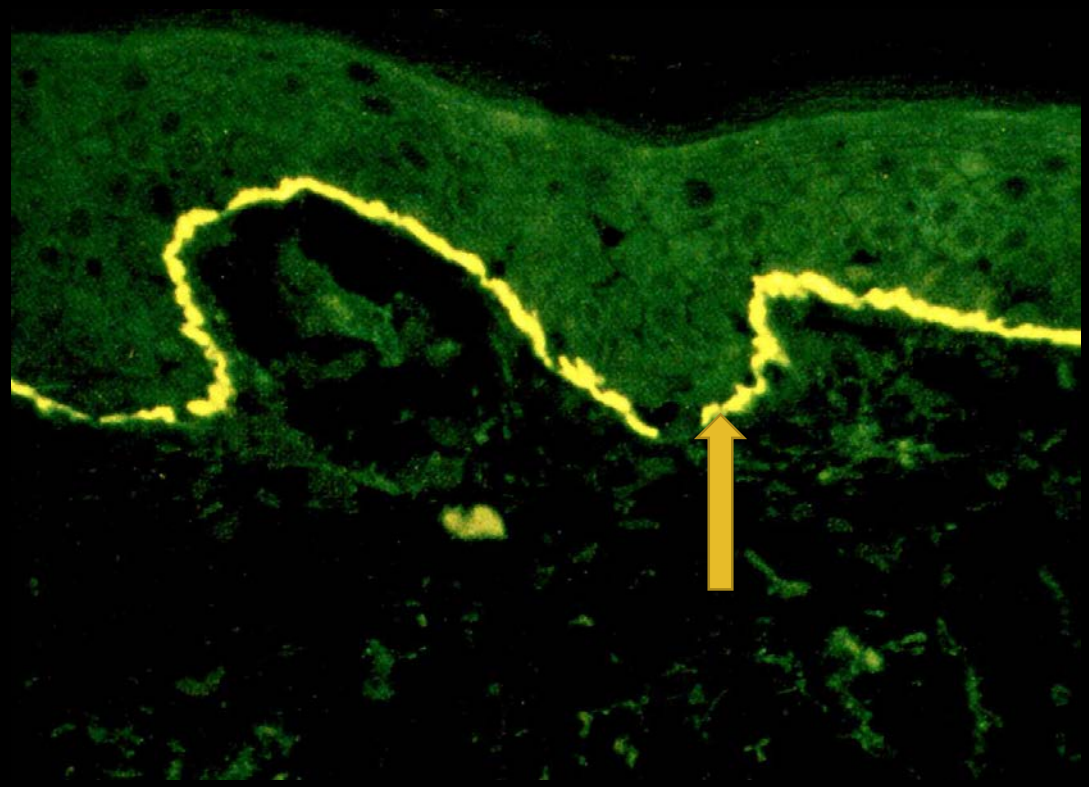
Pemphigoid gestationis: Evaluation

- 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

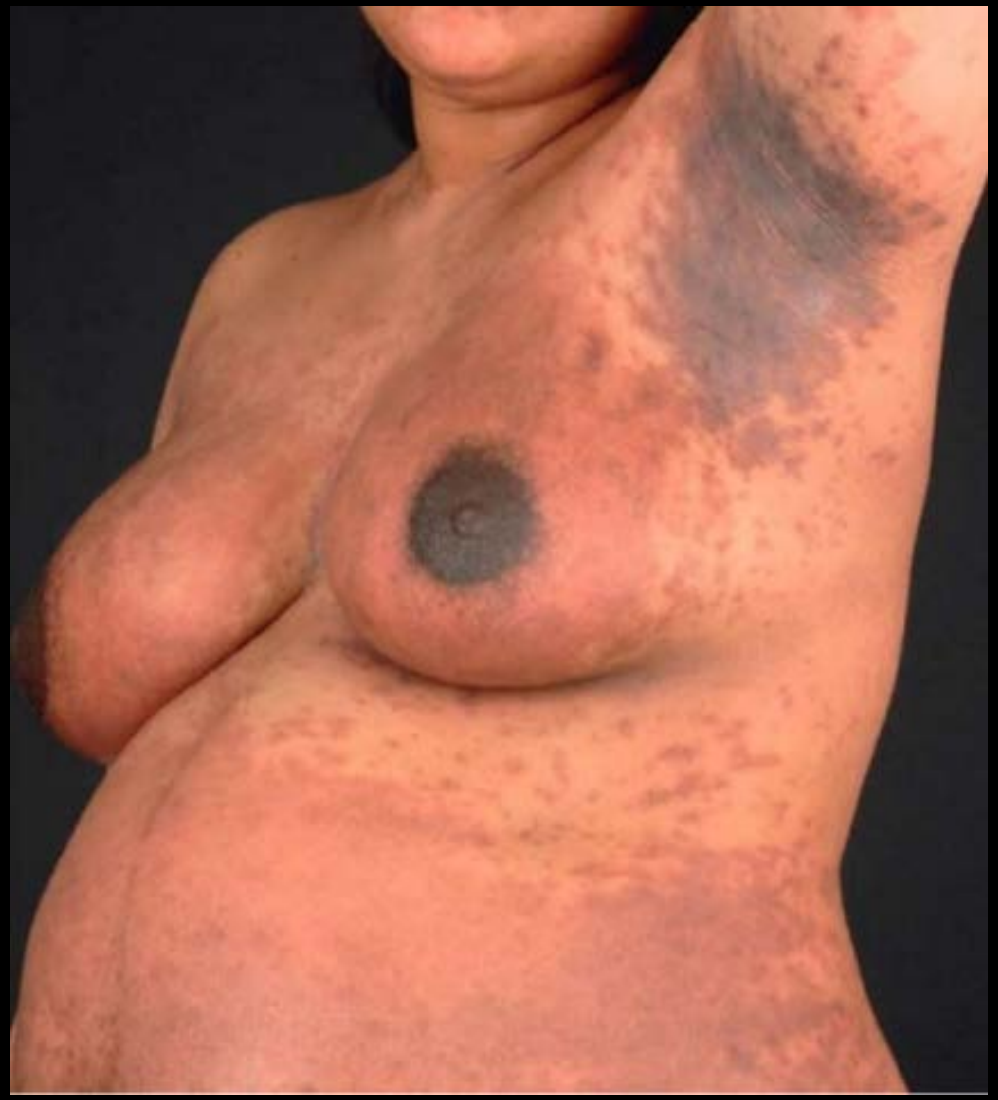
Pemphigoid gestationis: Treatment

- 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

	Pemphigoid gestationis	PUPPP
ONSET	2nd or 3rd trimester	3rd trimester
BLISTERS	common	rare
BIOPSY/IF	diagnostic	non-diagnostic
FETAL RISKS	SGA, preterm, blisters	none
RECURRENCE	yes	no

Atopic Eruption of Pregnancy



Atopic Eruption of Pregnancy

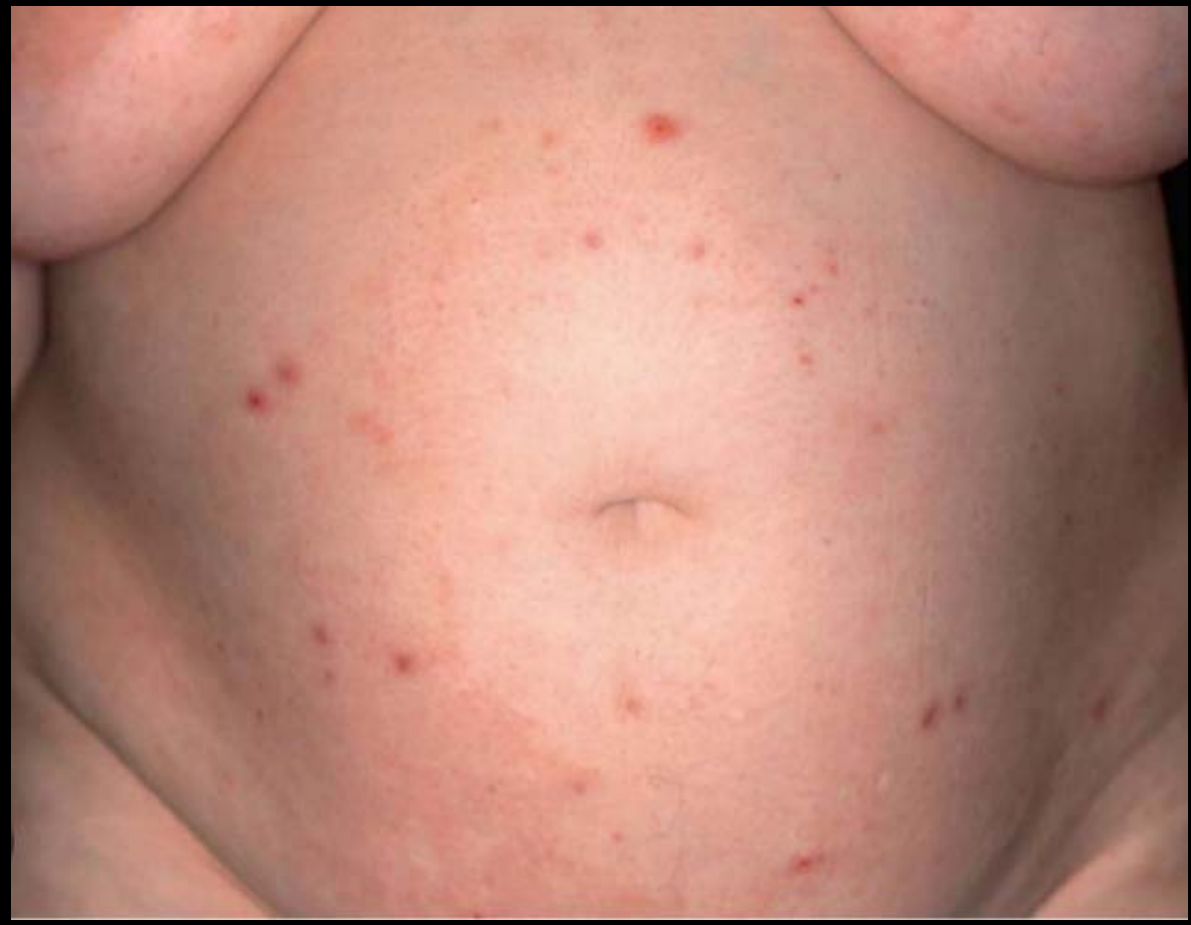
- Atopic eruption of pregnancy is a term that encompasses other pruritic inflammatory dermatoses which appear or worsen during pregnancy:
  - Atopic dermatitis in pregnancy
  - Prurigo of pregnancy (Besnier)
    - Prurigo = intensely itchy papules
  - Pruritic folliculitis of pregnancy
    - Pruritic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



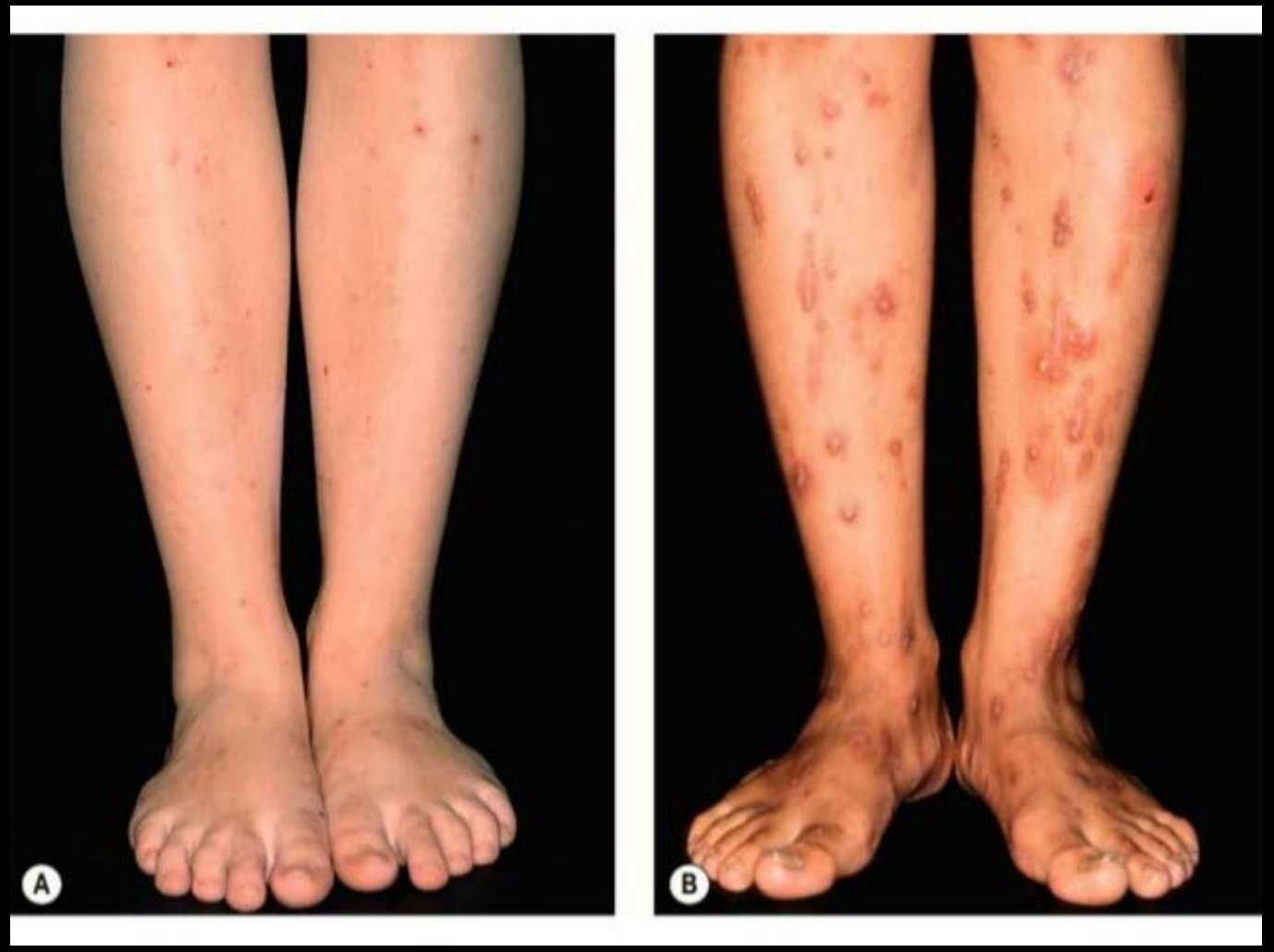
Atopic Eruption of Pregnancy : Prognosis

- 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

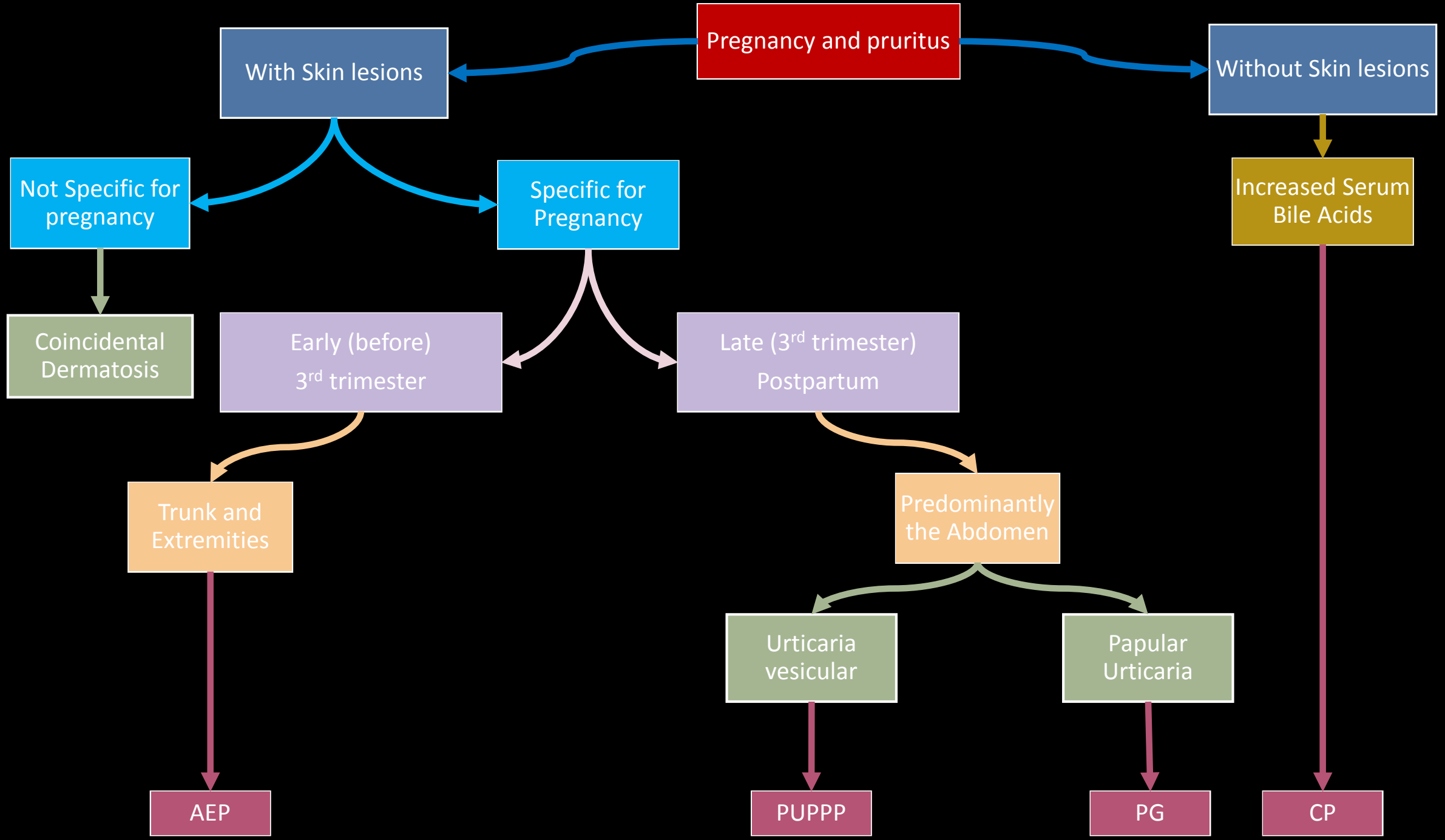
- Maternal bile acids cross the placenta and can accumulate in the fetal compartment, which carries significant risk for the fetus
  - Intrauterine demise
  - Meconium-stained amniotic fluid
  - Preterm delivery (spontaneous and iatrogenic)
  - Nonatal respiratory distress syndrome

Intrahepatic cholestasis of pregnancy: Complications

- Predictive value of maternal bile acid level
  - Bile acid level ≥40 micromol/L
  - Bile acid level ≥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
Without Skin lesions
Not Specific for pregnancy
Specific for Pregnancy
Increased Serum Bile Acids
Coincidental Dermatosis
Early (before) 3rd trimester
Late (3rd trimester) Postpartum
Trunk and Extremities
Predominantly the Abdomen
Urticaria vesicular
Papular Urticaria
AEP
PUPPP
PG
CP

Thank you

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