PREGNANCY DERMATOLOGY

Kristin L. Harkins, M.D.
Which of the following carries a risk of SGA?
A) PUPPP
B) Eczema
C) Pemphigoid Gestationis
D) Linear IgM of Pregnancy
PRETEST

Which of the following carries a risk of fetal demise?

A) Pemphigoid Gestationis
B) Herpes Gestationis
C) Prurigo of Pregnancy
D) Cholestasis of Pregnancy
HISTORY

- 1904: Besnier coins “prurigo gestationis” to include all patients with pregnancy-related dermatoses, other than those with pemphigoid gestationis.

- 1962: Bourne uses “toxaemic rash of pregnancy” to describe patients with intensely pruritic, symmetric papules or urticarial plaques that tended to appear in third trimester.
  - Lesions developed in abdominal striae of short women who experienced excessive weight gain during pregnancy.
  - Recurrences during subsequent gestations
  - Tendency to develop fetal distress.
  - Unfortunately no histopathologic or laboratory testing.
1962: Spangler reports women with intensely pruritic, widely scattered, excoriated papules during the second or third trimester and all patients suffered recurrences.

- Hallmarks were biochemical:
  - elevated urinary human chorionic gonadotropin (HCG), decreased plasma hydrocortisone, and decreased serum half-life of hydrocortisone.

- Liver function tests and histopathology were not reported and IF was not yet available.

- Spangler’s “papular dermatitis” was associated with high fetal wastage, a finding now thoroughly discredited.
1968: Nurse reviews literature and ignores it,
Divides patients (non-pemphigoid gestationis) into ‘early’ and ‘late’ forms of “prurigo of pregnancy”
Late overlapped with Bourne's “toxaemic rash of pregnancy”, which is now PUPPP
Early-onset form has remained a mystery. Nurse's ‘early onset’ patients and Spangler's ‘papular dermatitis’ patients were undoubtedly drawn from the same clinical spectrum, But since neither group reported liver function studies or histopathology, and Nurse failed to exclude the biochemical abnormalities of papular dermatitis, the ‘early onset’ group remains confusing.
1972: Invention of immunofluorescence microscopy, IF
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<tr>
<th>Classifications</th>
<th>Synonyms</th>
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<tr>
<td>Pruritic urticarial papules and plaques of pregnancy*</td>
<td>Polymorphic eruption of pregnancy</td>
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<td>Toxemic rash of pregnancy</td>
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<td>Toxic erythema of pregnancy</td>
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<td>Late-onset prurigo of pregnancy</td>
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<td>Prurigo of pregnancy*</td>
<td>Prurigo gestationis (Besnier)</td>
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<td>Early-onset prurigo of pregnancy (Nurse)</td>
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<td>Papular dermatitis of pregnancy (Spangler)</td>
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<td>Pruritic folliculitis of pregnancy†</td>
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<td>Linear IgM disease of pregnancy</td>
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<td>Cholestasis of pregnancy*</td>
<td>Obstetric cholestasis</td>
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<td>Prurigo gravidarum</td>
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<td>Pemphigoid Gestationis*</td>
<td>Herpes gestationis</td>
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<td>Gestational pemphigoid*</td>
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- *Preferred term
- † separate by some authors
Pemphigoid gestationis

- Intensely pruritic vesiculobullous eruption developing during late pregnancy or the immediate postpartum
- Positive C3 deposition along the base of the epidermis in direct IF of salt-split skin
- Autoantibodies directed against a transmembrane hemidesmosomal protein (BP180; collagen XVII)
- Increased risk of prematurity and possibly small-for-gestational-age births
PEMPHIGOID GESTATIONIS

- Associated with hydatidiform moles and choriocarcinomas.
- Interestingly, no case of a pemphigoid-like disease has been reported in men with choriocarcinoma, a biochemically similar tumor.
- Choriocarcinomas in men are entirely syngeneic
- The nuclear genome in placental tissue and choriocarcinoma in women is primarily paternal in origin.

- Incidence is 1:50 000
- HLA-DR3 is associated.

- A BP180 NC16A enzyme-linked immunosorbent assay is available, and when a cut-off value of 10 ELISA units was employed, pemphigoid gestationis could be distinguished from PUPPP with a specificity and sensitivity of 96%
PEMPHIGOID GESTATIONIS
PEMPHIGOID GESTATIONIS
IMMUNOGENETICS AND POTENTIAL CROSS-REACTIVITY BETWEEN PLACENTAL TISSUE AND SKIN.

- Increase in HLA antigens DR3 or DR4 nearly 50% of patients have the simultaneous presence of both.
- Essentially a 100% incidence of anti-HLA antibodies in patients with a history of pemphigoid gestationis.
- Disparate HLA antigens are typically placental (paternal origin).
- The autoantibody binds to amniotic basement membrane, derived from fetal ectoderm and antigenically similar to skin.
- Women also show an increased expression of MHC class II antigens (DR, DP, DQ) within the villous stroma of chorionic villi.
- Theory: the aberrant expression of MHC class II antigens (paternal haplotype) serves to initiate an allogeneic response to placental BMZ, which cross-reacts with maternal skin.
- Low incidence in blacks (low inc. of HLA DR-4)
- High incidence of Grave’s
PEMPHIGOID GESTATIONIS

- “Skip pregnancies” occur approximately 5%.
- Recurrences associated with menstruation are common
- Flares during the subsequent use of oral contraceptives occur 25%
- Treatment with corticosteroids: topicals for mild, most need oral Prednisone 0.5mg/kg daily, Pyridoxine +/-
- No residual scars for Mom
- Neonate may have lesions 5-10%
PRURITIC URTICARIAL PAPULES AND PLAQUES OF PREGNANCY (PUPPP)

- Intensely pruritic erythematous 1-2mm papules coalescing into plaques over abdominal striae.
- May spread to buttocks, thighs, arms and legs
- Umbilicus, upper chest, face and mucous membranes spared
- 75% primiparous, rarely recurrent.
- Incidence 1:160
PUPPP

- Onset: third trimester, resolves with delivery
- Postpartum occurrence is rare
- Pts gain more weight on average
- More common in twin pregnancies
- Fetal and maternal outcomes not effected by rash
- Fetal lesions are extremely rare
PUPPP
PUPPP HISTOLOGY

- Perivascular lymphohistiocytic infiltrate in upper and mid-dermises with eosinophils and dermal edema
- Negative IF testing
PUPPP

- Treatment with topical steroids, oral antihistamines and oral (prednisolone) if necessary
PRURIGO OF PREGNANCY
PRURIGO OF PREGNANCY

- Onset 1\textsuperscript{st} and 2\textsuperscript{nd} trimester
- 20\% exacerbation of atopic dermatitis
- 80\% 1\textsuperscript{st} occurrence.
- Pruritic papules and eczematous plaques
- Elevated serum IgE
- No maternal or fetal risk
- Tx Corticosteroids, antihistamines, UVB, emollients, abx for secondary infection
CHOLESTASIS OF PREGNANCY
CHOLESTASIS OF PREGNANCY

- No rash, but there may be excoriations.
- Severely pruritic especially palms, soles
- High incidence in Native South Americans
- Peak in 3rd trimester with elevated estrogen levels
- Jaundice occurs in minority of cases
- Increased incidence of prematurity, fetal distress and fetal death
- Elevated total serum bile acids (3x normal)
- Recurs in 50% pregnancies
- Tx: Ursodeoxycholic acid 15mg/kg/day or 1g daily, if elevated PT, vit K
PHYSIOLOGIC CHANGES

Melasma

Linea Nigra
PHYSIOLOGIC CHANGES

Striae
PHYSIOLOGIC CHANGES

Telogen Effluvium

Hirsutism
PHYSIOLOGIC CHANGES

Spider Angioma

Palmar Erythema
PHYSIOLOGIC CHANGES

Gingival Hyperplasia

Pyogenic Granuloma
POST TEST

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