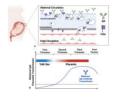
#### Skin Changes in Pregnancy: Knowing What's Normal?

Tejesh Patel, MD Professor and Rosenberg-Amonette Chair Kaplan-Amonette Department of Dermatology



### **Conflicts of Interests/Disclosures**

#### None



Safety of dermatologic medications in pregnancy and lactation: An update - Part I: Pregnancy

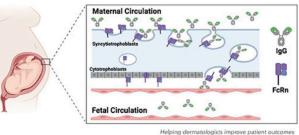
Patrick McMullan, Marita Yaghi, Thu M. Truong, Marti Rothe, Jenny Murase, Jane M. Grant-Kels Published online: January 25, 2024 p619-648

#### Safety of dermatologic medications in pregnancy and lactation: An update—Part II: Lactation

Marita Yaghi, Patrick McMullan, Thu M. Truong, Marti Rothe, Jenny Murase, Jane M. Grant-Kels Published online: January 25, 2024 p651-668







Dermatologic medications in pregnancy



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CME)

#### **Learning Objectives**

Describe and recognize the normal physiologic skin changes in pregnancy

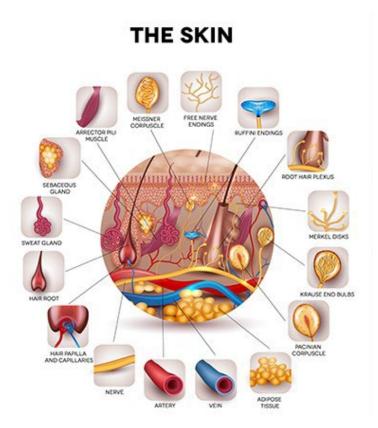
 Describe instances when further investigation should be considered

Describe how common dermatologic conditions are affected by pregnancy



## Why Are We Talking About This?

- Pregnant patients are discussing their skin complaints with their OBs
- Pregnant patients care about their skin
- May mistake normal physiologic changes for pathologic changes
  - Important to recognize them avoid unnecessary testing and stress but also to know when further investigation is warranted



## **Pigmentation in Pregnancy**

- Hyperpigmentation (90%)
  - More common in SOC patients
  - Etiology
  - OCP may be predictive





- Secondary areola
- Linea nigra
- Pigmentary Demarcation Lines



Bieber et al. Obst Gyn. 2017;129(1):168-173.



#### Melasma / "Mask of Pregnancy"

- Second half of pregnancy
- 50–70% of pregnant women
  More common is SOC
- Oral contraceptive pills



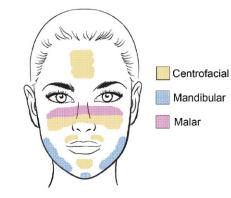


- Etiology
  - Sun, genetics, cosmetics, hormones



#### Melasma / "Mask of Pregnancy"





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Bieber et al. Obst Gyn. 2017;129(1):168-173.

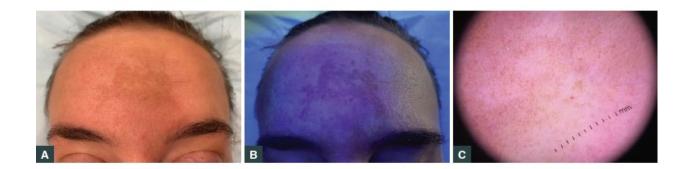




#### Melasma / "Mask of Pregnancy"

Woods Lamp/ Dermoscopy

Regresses postpartum



Dolan & Gupta; AJGP 2021

Photoprotection – esp early

 Avoidance cosmetics causing irritant/ACD

Clinical, Cosmetic and Investigational Dermatology

**Dove**press

REVIEW Prevention of Melasma During Pregnancy: Risk Factors and Photoprotection-Focused Strategies

Leilei Zhao 1, Xinmeng Fu<sup>2</sup>, Hongbin Cheng<sup>3</sup>

8 Open Access Full Text Article

School of Clinical Medicine, Chengdu University of Traditional Chinese Medicine, Chengdu, Sichuan Province, People's Republic of China; <sup>2</sup>Traditional Chinese Medicine Department, Boao Yiling Life Care Center, Qionghai, Hainan Province, People's Republic of China; <sup>3</sup>Department of Dermatology, Hospital of Chengdu University of Traditional Chinese Medicine, Chengdu, Sichuan Province, People's Republic of China

Correspondence: Hongbin Cheng, Email chenghongbin@cdutcm.edu.cn

Abstract: Melasma is a benign but emotionally distressing skin condition that reduces patients' quality of life, with prevalence rates during pregnancy ranging from 36.4% to 75%. Troublingly, up to 30% of cases are reported to persist after delivery, even ten years later. And recurrence and aggravation are common in subsequent pregnancies. This review examines the risk factors and mechanisms associated with melasma during pregnancy and summarized corresponding preventive strategies. We emphasize the critical role of photoprotection, including the use of sunscreens from the first trimester, in reducing the incidence of melasma Keywords: melasma, pregnancy, risk factors, prevention, photoprotection



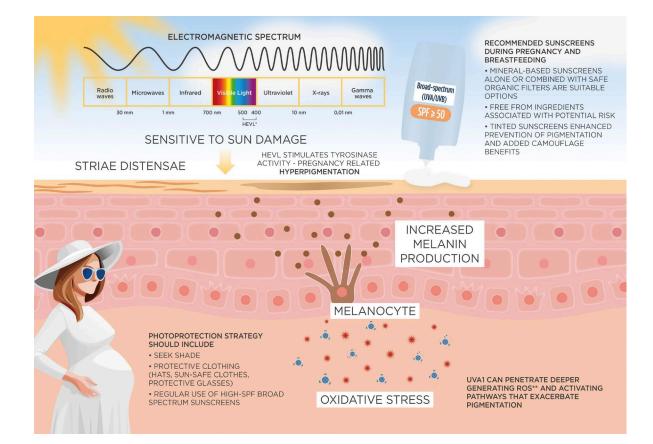
#### **Photoprotection In Pregnancy**

Frontiers | Frontiers in Medicine

TYPE Mini Review PUBLISHED 27 March 2025 DOI 10.3389/fmed.2025.1563369

#### Photoprotection in pregnancy: addressing safety concerns and optimizing skin health

Henry W. Lim<sup>1</sup>, Jaime Piquero-Casals<sup>2</sup>\*, Sergio Schalka<sup>3</sup>, Giovanni Leone<sup>4</sup>, Carles Trullàs<sup>5</sup>, Anthony Brown<sup>5</sup>, Monica Foyaca<sup>5</sup>, Yolanda Gilaberte<sup>6</sup>, Jean Krutmann<sup>7</sup> and Thierry Passeron<sup>8,9</sup>



## **Photoprotection In Pregnancy**

TABLE 1 Characteristics of recommended sunscreens during pregnancy and breastfeeding.

Characteristic	Recommendation
Type of filters	Mineral-based (zinc oxide, titanium dioxide) preferred; safe organic filters for improved sensorial profile and better adherence.
Broad-spectrum protection	High SPF with UVA, UVB, and HEVL* coverage.
Endocrine disruption	Avoid filters with potential endocrine-disrupting properties (e.g., oxybenzone, octinoxate, 4-methylbenzylidene camphor).
Cosmetic acceptability	Lightweight, non-sticky texture, minimal white cast, tinted formulations to match diverse skin tones.
Additional ingredients	Safe antioxidants (e.g., vitamin E, niacinamide), moisturizing agents (e.g., hyaluronic acid).
Avoidable ingredients	Retinoids, arbutin, resorcinol derivatives, salicylic acid, and parabens.
Application frequency	Reapply as needed, especially after swimming, sweating, or prolonged sun exposure.
Special considerations	Prefer non-spray formulations to avoid inhalation risks.

\*Effective protection against HEVL-induced pigmentation requires the presence of iron oxide in formulations.

Lim HW, et al(2025) Photoprotection in pregnancy: addressing safety concerns and optimizing skin health. Front. Med. 12:1563369

## What About "Moles" in Pregnancy ?

- Pregnancy does not induce significant change in melanocytic nevi
  - Insufficient evidence to support notion that nevi darken
- Nevi on breasts and abdomen can grow as result of expansion
  - No significant change in nevi on more stable areas



Any lesion concerning for melanoma should be biopsied

#### **Connective Tissue In Pregnancy**





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#### **Striae Gravidarum**





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#### **Striae Gravidarum**

#### Research

www.AJOG.org

#### **OBSTETRICS Risk factors for the development of striae gravidarum**

Hibah Osman, MD, MPH; Nelly Rubeiz, MD; Hala Tamim, PhD; Anwar H. Nassar, MD

**OBJECTIVE:** The purpose of this study was to identify risk factors associated with striae gravidarum (SG).

**STUDY DESIGN:** A cross-sectional study of 112 primiparous women delivering at a private teaching hospital was conducted. Participants were assessed during the immediate postpartum period for evidence of SG. Presence and severity of SG were compared to characteristics of women using *t* tests and Chi-square tests.

**RESULTS:** Sixty percent of the study participants had developed SG. Women who developed SG were significantly younger ( $26.5 \pm 4.5$  vs

 $30.5 \pm 4.6$ ; P < .001) and had gained significantly more weight during pregnancy (15.6  $\pm$  3.9 vs 38.4 kg  $\pm$  2.7; P < .001). Birthweight (BW), gestational age at delivery, and family history of SG were associated with moderate/severe SG.

**CONCLUSION:** Maternal age and weight gain during pregnancy are associated with SG. BW, family history of SG, and gestational age at delivery are associated with moderate/severe SG.

Key words: estrogen, pregnancy, relaxin, striae gravidarum

#### **Striae Gravidarum**

90% of white females

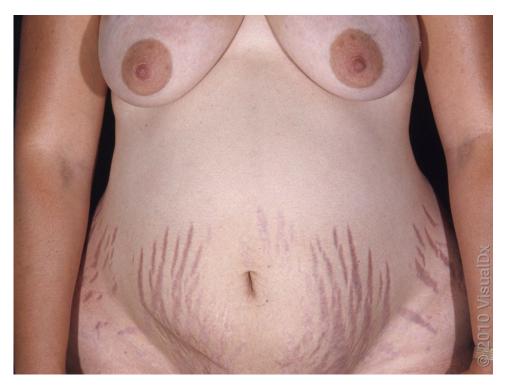
Second and third trimester

- Typically regress
- Fail to resolve/worsen:
  CUSHING'S SYNDROME



# **Cushing's Syndrome & Pregnancy**

- 25 % of reproductive age women with Cushing's
  - diagnosed < 1 year of childbirth</p>
- Striae, hirsutism, hyperpigmentation, acne, HTN, hyperglycemia
- Striae
  - Wider/Purple
  - Longer to resolve



Palejwala SK, et al. Pregnancy-associated Cushing's disease? An exploratory retrospective study. Pituitary. 2018 Dec;21(6):584-592.

Tang K, et al. The Incidence of Pregnancy-Associated Cushing's Disease and Its Relation to Pregnancy: A Retrospective Study. Front Endocrinol (Lausanne). 2020 May 29;11:305.

#### **Cushing's Syndrome & Pregnancy**



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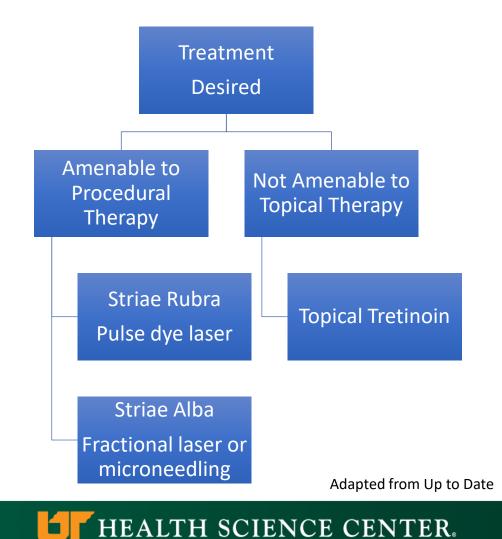


#### What Can We Do for Striae Gravidarum?

No real interventions for prevention

#### Treatment

- Optional
- Paucity of high-quality trials has led to uncertainty about the best approach to therapy



## **Connective Tissue In Pregnancy**

- Molluscum fibrosum gravidarum
  - Second half of pregnancy
- Worsening gynoid lipodystrophy (cellulite)



#### **Spider Angiomas in Pregnancy**

•  $2^{nd} - 5^{th}$  month, most common

• White > Black

• 75% fade by 7 weeks

• Estrogen





#### **Palmar Erythema in Pregnancy**







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## **Palmar Erythema in Pregnancy**

- Two forms
- White > Blacks
- Regresses with 1 week
- Fail to resolve:
  - Liver cirrhosis, SLE, hyperthroidism



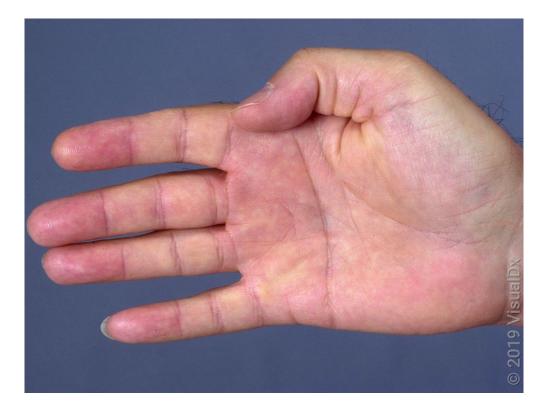
Palmer erythema secondary to cirrhosis



## **Palmar Erythema in Pregnancy**

#### • 4% SLE patients

- 23% liver cirrhosis patients
  - Intrahepatic cholestasis of pregnancy (cirrhosis)
- 18% hyperthyroid pts
  - Autoimmune hyperthyroidism affects 0.1 - 0.4% of pregnancies



#### Palmer erythema secondary to SLE

Anzelc MJ, Bechtel MA. Considerations for cutaneous physiologic changes of pregnancy that fail to resolve postpartum. Int J Dermatol. 2023 Feb;62(2):190-196.

# **Varicosities in Pregnancy**

- Most commonly involve the saphenous vein
  - Compression of the femoral and pelvic vessels
  - Typically regress
- Vulvar varicosities AKA Jacquemier's sign
  - Difficulty walking/local discomfort
  - Typically resolve 30 days postpartum
  - Concern for bleeding from vulvovaginal laceration
  - Vulvar varicosity support garment







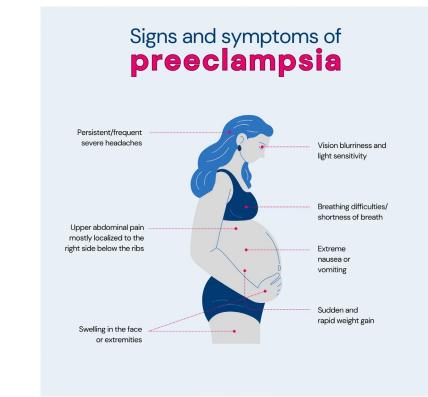
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# **Edema in Pregnancy**

#### Nonpitting edema

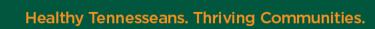
- Increased venous hydrostatic pressure
- Typically lower extremities
- Bed rest, leg elevation, compression stockings, rest lying on the left side
- Persistent edema esp of face and hands
  - May be a sign of preeclampsia



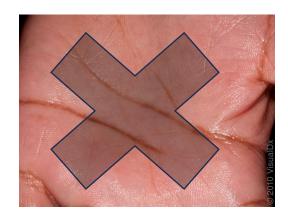
# **Glands in Pregnancy**

- Glands
  - Hyperhidrosis
  - Miliaria (prickly heat)
  - Montgomery tubercles
  - ? "pregnancy glow"

Stone K, Wheeler A. A Review of Anatomy, Physiology, and Benign Pathology of the Nipple. Ann Surg Oncol. 2015 Oct;22(10):3236-40.









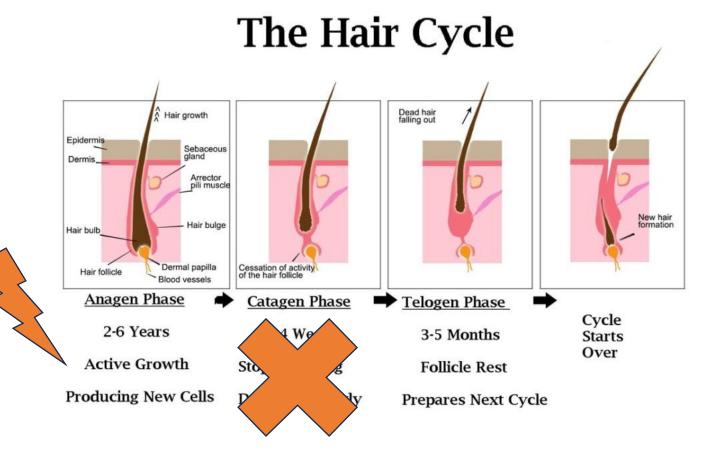




- What do you think happens to hair during pregnancy?
  - Thinner?
  - Thicker?
  - Grows more slowly?
  - Falls out?



- Hair Growth
  - Thicker/denser hair during gestation



- Telogen effluvium after childbirth
  - I- 5 months after delivery
  - Lasts 1-2 years
  - Challenging for patient
- Prolonged telogen effluvium consider:
  - Iron deficiency anemia/vitamin deficiencies
  - Thyroid disorders
  - Androgenic alopecia







#### Hirsutism

- Common
- Ovarian androgen production
- Disappears
- Hirsutism > 6 months post delivery
  - Androgen-secreting tumor
  - Nonclassical congenital adrenal hyperplasia (NCAH)





Terminal hair growth in the beard area of a female patient secondary to a testosteronesecreting luteoma of pregnancy.

# **Nails in Pregnancy**

- What do you think happens to nails during pregnancy?
  - Grow faster?
  - Grow more slowly?



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# **Nails in Pregnancy**

Accelerated growth

Week 6

- May become soft, brittle, or dystrophic, with transverse grooves (Beau's lines)
- Subungual hyperkeratosis or onycholysis







#### **Mucous Membranes in Pregnancy**

- Chadwick's sign and Goodell's sign
  - Within 4-8 weeks
  - Blood flow, vascularity and edema
- Enlargement and blunting of the papillae of the gingival mucosa
- Pregnancy gingivitis
  - Hyperemia, bleeding, edema of gingival tissue



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Silk H, et al. Oral health during pregnancy. Am Fam Physician. 2008 Apr 15;77(8):1139-44.

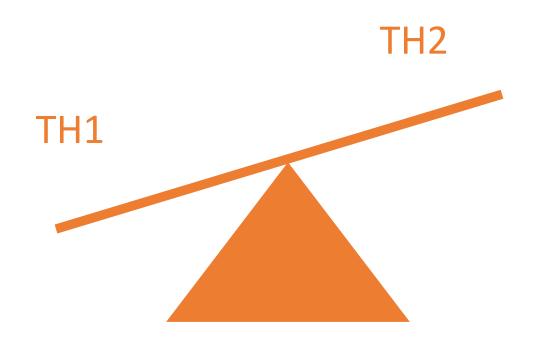
#### **Common Dermatologic Conditions**



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#### **Dermatoses Affected by Pregnancy**

- A switch from cell-mediated to humoral immunity (helper T 1 [TH1] to helper T 2 [TH2] shift) during gestation plays a key role in placental immune tolerance.
- As a result, skin diseases that are TH2 mediated often worsen, whereas skin diseases that are TH1 mediated often improve during gestation.



#### What Do You Think Will Happen?



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# **Atopic Dermatitis in Pregnancy**

Often worsened by pregnancy





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# **Atopic Dermatitis in Pregnancy**

### International Journal of WOMEN'S Dermatology

▶ Int J Womens Dermatol. 2024 Jun 10;10(2):e151. doi: <u>10.1097/JW9.000000000000151</u> [2]

### Atopic dermatitis in women: special considerations in the childbearing years

Rodolfo Valentini<sup>a</sup>, Mona Shahriari<sup>b,c,\*</sup>

Author information > Article notes > Copyright and License information
 PMCID: PMC11164005 PMID: <u>38860232</u>

#### Dupilumab

Tralokinumab

JAK inhibitors:

- Upadacitinib
- Abrocitinib

- No identified adverse maternal or fetal outcomes, but limited data in pregnancy, so proceed with caution
- No current data in breastfeeding
- Observational cohort study looking at the incidence of adverse pregnancy outcomes is underway
- Limited data on use in pregnancy, so proceed with caution
- · No current data in breastfeeding
- No human data in pregnancy; animal models show potential teratogenicity
- · Contraindicated in pregnancy
- Wait 4 weeks following last dose to attempt conception
- Avoid breastfeeding during, and 6 days following last dose

## Question

• Do you council your patient this will get better or worse during pregnancy?





### Question

• Do you council your patient this will get better or worse during pregnancy? STUDY

### Hormonal Effect on Psoriasis in Pregnancy and Post Partum

Jenny E. Murase, MD; Kenneth K. Chan, MD; Thomas J. Garite, MD; Dan M. Cooper, MD; Gerald D. Weinstein, MD

**Objectives:** To investigate prospectively how psoriasis fluctuates in pregnancy and post partum and to correlate hormone levels in pregnancy (progesterone and estrogens) with psoriatic change.

**Design:** Psoriatic body surface area (BSA) in pregnant patients with psoriasis (study group) and nonpregnant, menstruating patients with psoriasis (control group) were assessed 5 times over a year. Hormone levels (progesterone and estrogens) were measured in the study group and correlated with change in BSA.

**Setting:** University-affiliated obstetric and dermatology clinics.

**Patients:** Forty-seven pregnant patients in the psoriasis group and 27 nonpregnant, menstruating patients in the control group.

Results: During pregnancy, 55% of the patients re-

ported improvement, 21% reported no change, and 23% reported worsening. However, post partum, only 9% of patients reported improvement, 26% reported no change, and 65% reported worsening. Psoriatic BSA decreased significantly from 10 to 20 weeks' gestation (P<.001) compared with controls, whereas BSA increased significantly by 6 weeks post partum (P=.001) compared with controls. In patients with 10% or greater psoriatic BSA who reported improvement (n=16; mean BSA, 40%), lesions decreased by 83.8% during pregnancy. There were significant or near significant correlations between improvement in BSA and estradiol (P=.009, r=0.648), estriol (P=.06, r=0.491), and the ratio of estrogen to progesterone (P=.006, r=0.671).

**Conclusion:** High levels of estrogen correlated with improvement in psoriasis, whereas progesterone levels did not correlate with psoriatic change.

Arch Dermatol. 2005;141:601-606

## **Psoriasis in Pregnancy**

- Often improved in pregnancy, although returns to baseline state postpartum
- Th-1 type disease
- Inconclusive data regarding fetal outcomes

#### SYSTEMATIC REVIEW

### **Psoriasis and adverse pregnancy outcomes: a systematic review of observational studies\***

R. Bobotsis,<sup>1</sup> W.P. Gulliver,<sup>2</sup> K. Monaghan,<sup>3</sup> C. Lynde<sup>4,5</sup> and P. Fleming<sup>5</sup>

<sup>1</sup>Schulich School of Medicine, Western University, London, ON, Canada
<sup>2</sup>Department of Medicine, Faculty of Medicine, Memorial University of Newfoundland, St. John's, NF, Canada

<sup>3</sup>Department of Family Medicine (Obstetrics), Faculty of Medicine, Memorial University of Newfoundland, St. John's, NF, Canada

<sup>4</sup>Lynde Dermatology (Private Practice), Markham, ON, Canada

<sup>5</sup>Division of Dermatology, University of Toronto, Toronto, ON, Canada

#### Summary

#### Correspondence

Patrick Fleming. E-mail: flemingp@mun.ca

Accepted for publication 16 February 2016

Funding sources None.

#### **Conflicts of interest**

W.P.G. has received honoraria for participation in advisory boards for AbbVie, Arngen, Bio-K and Janssen, and for participation in speaker engagements and consultative meetings for AbbVie, Actelion, Amgen, Janssen, LEO Pharma, Novartis and Roche. C.L. has acted as a principal investigator, speaker and/or consultant for AbbVie, Arngen, Celgene, Eli Lilly, Galderma, Janssen, LEO Pharma, Merck, Novartis, Fibrer and Valeant.

\*Plain language summary available online

DOI 10.1111/bjd.14547

Psoriasis is a chronic inflammatory disorder with significant physical and psychological sequelae. The majority of individuals experience disease onset in early adult life – for women this often occurs during their reproductive years. While some autoimmune diseases have been shown to affect pregnancy outcomes adversely, such a relationship has not been well studied in psoriasis. We searched PubMed, Embase and the Cochrane database for published articles examining psoriasis and adverse pregnancy outcomes, and included observational studies and clinical trials evaluating direct measures of maternal and fetal morbidity and mortality. Four of the nine included articles reported a statistically significant increase in the risk of at least one outcome, including spontaneous abortion, caesarean delivery, low birth weight, macrosomia, large-for-gestational age, and a composite outcome consisting of both prematurity and low birth weight. However, these associations were not always consistent across studies. Overall, there was no clear evidence of increased adverse outcomes in pregnant women with psoriasis.

#### What's already known about this topic?

- Many women suffer from psoriasis during their reproductive years.
- Other autoimmune diseases have been shown to affect pregnancy outcomes adversely, underscoring the importance of studying this relationship in psoriasis.

#### What does this study add?

The included articles did not demonstrate a consistently increased risk of adverse
pregnancy outcomes. However, increased risks of spontaneous abortion, caesarean
delivery, low birth weight, macrosomia, large-for-gestational age, or a composite
outcome combining both prematurity and low birth weight were each reported in
at least one of the included studies.

## **Acne in Pregnancy**





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# **Acne in Pregnancy**

### • Common ~ 40 percent

75% percent improvement, 12% worsening







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# **Acne in Pregnancy**

• Truncal acne significantly higher in the third trimester

- More severe acne in pregnancy
  - Irregular menstruation before pregnancy, polycystic ovary syndrome, hirsutism, and higher body weight index

#### Report

#### Acne in pregnancy: A prospective multicenter, crosssectional study of 295 patients in Turkey

Ömer Kutlu<sup>1</sup>, MD, MRCP, D Ayşe Serap Karadağ<sup>2</sup>, MD, Emine Ünal<sup>3</sup>, MD, Kıymet Handan Kelekçi<sup>4</sup>, MD, Ayşegül Yalçınkaya İyidal<sup>5</sup>, MD, Filiz Topaloğlu Demir<sup>6</sup>, MD, Berna Aksoy<sup>7</sup>, MD, Emine Çölgeçen<sup>8</sup>, MD, Mustafa Tosun<sup>9</sup>, MD, Selma Emre<sup>10</sup>, MD, Aslı Tatlıparmak<sup>7</sup>, MD, Düriye Deniz Demirseren<sup>11</sup>, MD, Hatice Kaya Özden<sup>12</sup>, MD, Murat Öztürk<sup>13</sup>, MD, Emin Özlü<sup>14</sup>, MD and Wenchieh Chen<sup>15,16</sup>, MD

#### Venereology, School of Medicine, Usak University Usak Training and Research Hospital, Uşak, Turkey, <sup>2</sup>Department of Dermatology and Venereology, School of Medicine, Istanbul Medeniyet University, Goztepe Training and Research Hospital. Istanbul, Turkey, <sup>3</sup>Department of Dermatology and Venereology, Lokman Hekim Hospital, Ankara, Turkey, <sup>4</sup>Department of Dermatology and Venereology, İzmir Katip Çelebi University, Izmir, Turkey, <sup>5</sup>Department of Dermatology and Venereology, Keciören Training and Research Hospital, Ankara, Turkey, <sup>6</sup>Department of Dermatology and Venereology, School of Medicine, Medipol University, İstanbul, Turkey, 7Department of Dermatology and Venereology, School of Medicine, Bahcesehir University, Istanbul, Turkey <sup>8</sup>Department of Dermatology and Venereology, School of Medicine, Yozgat Bozok University, Yozgat, Turkey, <sup>9</sup>Department of Dermatology and Venereology, Konya Training and Research Hospital, Konya, Turkey, <sup>10</sup>Department of Dermatology and Venereology, School of Medicine, Yıldırım Bevazıt University, Ankara. Turkey, <sup>11</sup>Department of Dermatology and Venereology, Ankara Bilkent City Hospital, Ankara, Turkey <sup>12</sup>Department of Dermatology and Venereology, Kocaeli Derince Training and Besearch Hospital, Kocaeli, Turkey, <sup>13</sup>Department of Dermatology and Venereology, Van Training and Research Hospital, Health Sciences University, Van, Turkey, <sup>14</sup>Department of Dermatology and Venereology, School of Medicine, Düzce, Turkey, <sup>15</sup>Department of Dermatology and Allergy, Technische Universität München. Munich, Germany, and <sup>16</sup>Department of Dermatology, Pingtung Hospital, Ministry of Health and Welfare, Taiwan

<sup>1</sup>Department of Dermatology and

#### Abstract

Background There are only a few studies on acne in pregnancy. This study was aimed to investigate the demographic, clinical, and familial characteristics of acne in pregnancy, triggering factors including endocrine diseases, and association of these findings with acne in different trimesters of pregnancy.

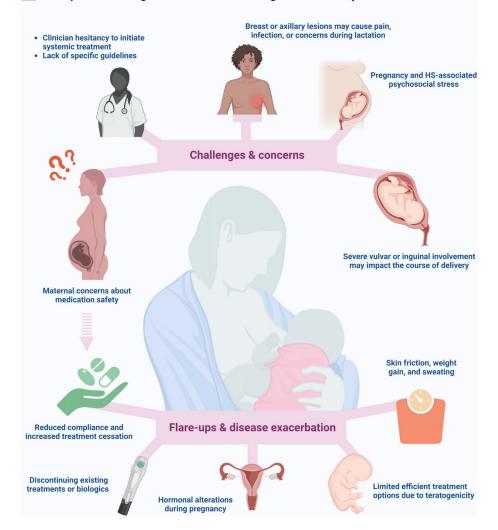
**Methods** Pregnant women aged 18 years and older with acne at any stage of pregnancy were consecutively interviewed at the participating centers during the study period from 2016 to 2019. Acne severity was evaluated using the Comprehensive Acne Severity Scale. **Results** A total of 295 pregnant women with acne were included, with 167 (56.6%) patients showing mild, 87 (29.5%) moderate, six (12.2%) severe, and five (1.7%) very severe acne. Truncal acne was significantly higher in the third trimester than in the other stages (P < 0.001). Onset of acne before pregnancy, prepubertal, pubertal or adult onset, or acne history in previous pregnancies did not influence acne severity in pregnancy. Women with irregular menstruation before pregnancy, polycystic ovary syndrome, hirsutism, and higher body weight index tended to show severe acne in pregnancy. **Conclusions** Severe acne during pregnancy is generally uncommon, while severity of facial acne, truncal acne, and hirsutism is higher in the third trimester than in other trimesters. Acne in pregnancy shares many characteristics with female adult acne. Substantial changes in different kinds of hormones play a more complex role in acne during pregnancy, the pathogenesis remains to be determined.

- Disproportionately affects women of childbearing potential, with a female-to-male ratio of 3:1.
- Affects apocrine gland-dense regions
- Metabolic, endocrine, and inflammatory changes during pregnancy may be factors in the HS course



#### Hidradenitis Suppurativa During Pregnancy and Lactation

Therapeutic challenges and factors influencing disease activity



Int J Dermatology, First published: 31 January 2025, DOI: (10.1111/ijd.17672)

• 25% improvement, 20% flare

 > 50% will experience a postpartum flare

 Associated with adverse maternal and offspring outcomes

#### JAMA Dermatology | Original Investigation

#### Hidradenitis Suppurativa and Maternal and Offspring Outcomes

Kaiyang Li, BSc; Vincent Piguet, MD, PhD; David Croitoru, MD, MSc; Shu Qin Wei, MD, PhD; Émilie Brousseau, MSc; Elizabeth O'Brien, MD; Nathalie Auger, MD, MSc

**IMPORTANCE** Hidradenitis suppurativa (HS) is associated with morbidity in persons of reproductive age, but the effect on maternal and offspring outcomes is understudied.

### Multimedia Supplemental content

**OBJECTIVE** To determine the association of HS with pregnancy outcomes and maternal and child morbidity in the long term.

DESIGN, SETTING, AND PARTICIPANTS This population-based longitudinal cohort study with up to 16 years of follow-up took place between 2006 and 2022 in Quebec, Canada.

#### EXPOSURE Maternal HS.

MAIN OUTCOMES AND MEASURES Outcomes included hypertensive disorders of pregnancy, gestational diabetes, and other birth outcomes as well as the long-term risk of hospitalization up to 16 years after delivery. The study used adjusted log-binomial and Cox proportional hazards regression models to estimate the association between maternal HS and pregnancy outcomes or hospitalization following pregnancy. Outcomes in both mothers and offspring were assessed.

**RESULTS** There were 1324 488 deliveries during the study, including 1332 (0.1%) among mothers with HS. Compared with patients without HS, patients with HS had a greater risk of hypertensive disorders of pregnancy (risk ratio [RR], 1.55 [95% CI, 1.29-1.87]), gestational diabetes (RR, 1.61 [95% CI, 1.40-1.85]), and severe maternal morbidity (RR, 1.38 [95% CI, 1.03-1.84]). In neonates, maternal HS was associated with risk of preterm birth (RR, 1.28 [95% CI, 1.07-1.53]) and birth defects (RR, 1.29 [95% CI, 1.07-1.56]). In the long term, HS was associated with 2.29 times the risk of maternal hospitalization (95% CI, 2.07-2.55) and 1.31 times the risk of childhood hospitalization (95% CI, 1.18-1.45), including hospitalization for respiratory, metabolic, psychiatric, and immune-related morbidity over time.

**CONCLUSIONS AND RELEVANCE** This cohort study found that HS is associated with adverse maternal and offspring outcomes in the peripartum period and in the long term. Early detection and management of HS may help mitigate these outcomes.

JAMA Dermatol. doi:10.1001/jamadermatol.2024.3584 Published online October 16, 2024. Author Affiliations: Faculty of Medicine and Health Sciences, McGill University, Montreal, Quebec, Canada (Li); Division of Dermatology, Department of Medicine, Women's College Hospital, University of Toronto, Toronto, Ontario, Canada (Piguet, Croitoru); Institut national de santé publique du Québec, Montreal, Quebec, Canada (Wei, Brousseau, Auger); Department of Obstetrics and Gynecology, University of Montreal, Montreal, Quebec, Canada (Wei); University of Montreal Hospital Research Centre, Montreal, Ouebec, Canada (Brousseau, Auger); Division of Dermatology, Montreal General Hospital, McGill University Health Centre, Montreal, Ouebec, Canada (O'Brien); Department of Epidemiology, Biostatistics and Occupational Health, McGill University, Montreal, Ouebec, Canada (Auger); Department of Social and Preventive Medicine, School of Public Health, University of Montreal, Montreal, Quebec, Canada (Auger)

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North American clinical practice guidelines for the medical management of hidradenitis suppurativa in special patient populations

Journal of the American Academy of Dermatology (JAAD) Alhusayen, Raed; Dienes, Serena; Lam, Megan; Alavi, ... Vol. 92 Issue 4, pp. 825–852, 2025.



Topicals Antibiotics

Intralesional steroids

- Topical Antiseptics e.g. chlorhexidine
  - Avoid triclosan



### Systemic Antibiotics

- Cephalexin, azithromycin, clindamycin +/- rifampin
- Avoid metronidazole, cotrimoxazole, dapsone, doxycycline, erythromycin
- Systemic steroids considered for acute flares

### Biologics

- Adalimumab
- Infliximab
- Certolizumab
- Secukinumab
- Stopping at week 20 vs continuing therapy

### • Pityriasis rosea

- Associated with reactivation or primary infection of human herpesvirus 6 and 7
- PR is more prevalent in pregnant women, likely due to a state of immunosuppression.
- Characterized by erythematous scaly plaques, distributed along the truncal lines in a Christmas tree pattern
- Preceded by prodromal malaise and a solitary plaque, known as the "herald patch





Journal of the American Academy of Dermatology Volume 71, Issue 1, July 2014, Pages 198-199



Letter

Evidence of human herpesvirus-6 and -7 reactivation in miscarrying women with pityriasis rosea

Francesco Drago MD <sup>a</sup>, Francesco Broccolo MD <sup>b</sup>, Sanja Javor MD <sup>a</sup>  $\stackrel{\otimes}{\sim}$   $\boxtimes$ , Francesca Drago <sup>a</sup>, Alfredo Rebora MD <sup>a</sup>, Aurora Parodi MD <sup>a</sup>

Volume 234, Issue 1-2



RESEARCH ARTICLES | JUNE 22 2018

### Pityriasis Rosea during Pregnancy: Major and Minor Alarming Signs

Subject Area: 🚿 Dermatology , 👕 Immunology and Allergy

<u>Francesco Drago; Giulia Ciccarese ७; Astrid Herzum 🖭; Alfredo Rebora; Aurora Parodi</u>

*Dermatology* (2018) 234 (1-2): 31–36. <u>https://doi.org/10.1159/000489879</u> S <u>Article history</u>

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No increased risk of birth complications and spontaneous abortion in pregnant patients with pityriasis rosea compared to matched controls: A retrospective study at an academic center New York, New York Journal of the American Academy of Dermatology (JAAD) Ong, Michael; White, Harrison; Lipner, Shari R. Vol. 90 Issue 1, pp. 168–170, 2024.



Pregnancy complications associated with pityriasis rosea: A multicenter retrospective study Journal of the American Academy of Dermatology (JAAD) Stashower, Julian; Bruch, Katherine; Mosby, Anastasia... Vol. 85 Issue 6, pp. 1648–1649, 2021.





Reviews

#### OPEN

### The risks of pityriasis rosea in pregnancy: a review

Sophia Manduca, BS<sup>a</sup>, Christina S. Oh, BA<sup>a</sup>, Michael Ong, BS<sup>b</sup>, Shari R. Lipner, MD, PhD<sup>b</sup>, Miriam K. Pomeranz, MD<sup>a,c</sup>, Amy K. Bieber, MD<sup>a,\*</sup>

#### ABSTRACT

**Objective:** This review aims to consolidate available evidence, identify research gaps, and advocate for a more informed approach to the management of pityriasis rosea in pregnant individuals.

**Data Sources:** PubMed, Web of Science, and Directory of Open Access Journals were systematically searched based on the keywords "pityriasis rosea," "pityriasis circinate," "roseola annulate," "herpes tonsurans maculosus," "herald patch," and "pregnancy" on January 25, 2024 for publications between 1950 to 2024.

**Study Selection:** Studies containing outcomes data for pregnant patients with established PR were included. Studies must have been written or translated into English and published in a peer-reviewed journal. Studies which did not pertain to PR in the setting of pregnancy were excluded, as screened by two reviewers. Responses, general informational reviews, and letters to the editor without novel data were also excluded.

**Results:** Eleven relevant articles were identified, encompassing data from 177 patients. Overall, 81% of patients had favorable outcomes while 19% experienced unfavorable outcomes. PR onset before 15 weeks gestation was associated with a higher rate of unfavorable outcomes (41%), including a 27% rate of spontaneous abortion (SA). Conversely, PR onset after 15 weeks had a lower unfavorable outcome rate (21%), and no instances of SA.

**Conclusion:** Conflicting data exists regarding the impact of PR on pregnancy outcomes. However, PR onset within the first 15 weeks, widespread lesions, constitutional symptoms, and higher human herpesvirus 6 viral loads may increase the risk of unfavorable outcomes such as SA. Close follow-up and consideration of antiviral treatment are recommended for high-risk patients.

Keywords: complications, human herpesvirus, pityriasis rosea, pregnancy

# **Learning Objectives**

Describe and recognize the normal physiologic skin changes in pregnancy

 Describe instances when further investigation should be considered

Describe how common dermatologic conditions are affected by pregnancy



### Thank You

#### **Practice Safe Sun:** Protect Yourself From the Sun

Sun exposure is the most preventable risk factor for all skin cancers, including melanoma. You can have fun in the sun and decrease your risk of skin cancer.

#### Here's how to protect yourself from the sun:



Seek shade. The sun's rays are strongest between 10 a.m. and 2 p.m. If your shadow is shorter than you are, seek shade.

Wear sun-protective clothing, such as a lightweight, long-sleeved shirt, pants, a wide-brimmed hat, and sunglasses with UV protection, when possible. For more effective protection, choose clothing with an ultraviolet protection factor (UPF) number on the label.



Apply a broad-spectrum, water-resistant sunscreen with an SPF of 30 or higher to all skin not covered by clothing. Broad-spectrum sunscreen provides protection from both ultraviolet A (UVA) and ultraviolet B (UVB) rays. Reapply every two hours, even on cloudy days, and after swimming or sweating.



Use extra caution near water, snow, and sand, as they reflect and intensify the damaging rays of the sun, which can increase your chance of skin cancer.



Avoid tanning beds. If you want to look tan, consider using a self-tanning product, but continue to use sun protection outdoors.

If you find any new or suspicious spots on your skin, or any spots that are changing, itching, or bleeding, make an appointment to see a board-certified dermatologist.

To learn more about skin cancer detection and prevention, talk to a board-certified dermatologist or visit **SpotSkinCancer.org**.

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