



**8<sup>th</sup> YEAR**  
**08-10 November 2024**  
InterContinental Dubai - Festival City  
United Arab Emirates



# CASES FROM THE PREGNANCY SKIN CLINIC

**Dr S A Vaughan Jones**  
**Consultant Dermatologist UK**



**27<sup>TH</sup> WORLD CONGRESS  
OF DERMATOLOGY 2031**  
**DUBAI - CANDIDATE CITY**

# Conflict of Interest

- I have no conflict of interest to declare

# CONTENTS OF TALK

- Pregnancy Skin clinic
- How to assess the pregnant patient
- Immune system changes in pregnancy
- Cases from Pregnancy Clinic
- Safe Treatment in pregnancy
- Educational Resources

# PREGNANCY SKIN CLINIC



**NHS**  
Ashford and St. Peter's Hospitals  
NHS Foundation Trust

## PREGNANCY SKIN CLINIC REFERRAL PROFORMA

Please complete details and E mail to Dr Samantha Vaughan Jones  
Email: [S.vaughanjones@nhs.net](mailto:S.vaughanjones@nhs.net)

Please include any photos of the patient's skin eruption (with their consent) and e mail to our Dermatology Photos team on [asp-tr.dermphotos@nhs.net](mailto:asp-tr.dermphotos@nhs.net)

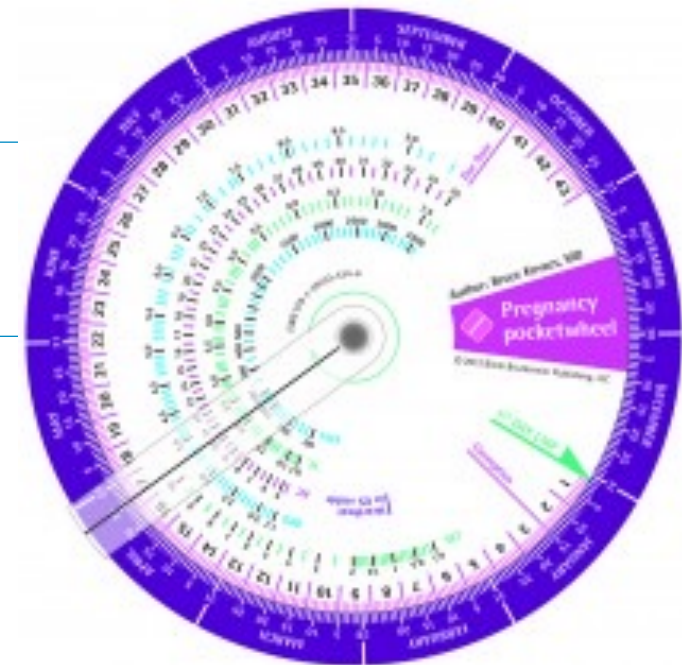
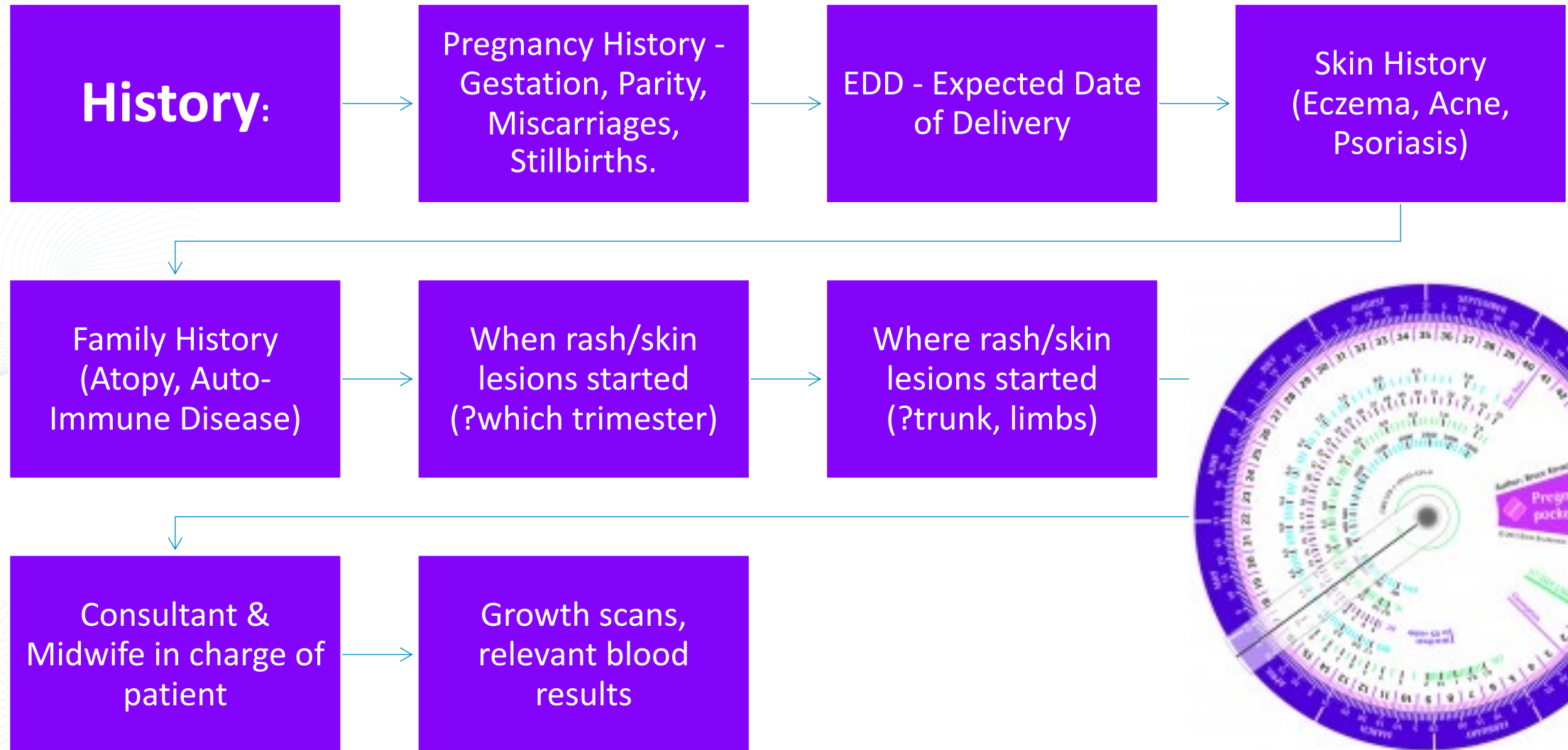
Patient Name & address:	Hospital Number:
DOB:	NHS number:
Mobile Number:	E mail address:
Referred by: (Dr / Midwife)	Consultant Obstetrician:
Gestation:	Parity:
Relevant blood results: Haemoglobin, Ferritin levels, serum bile acids	
Clinical History:	Treatment given so far:
Expected date of Delivery:	
Date of Referral:	ROUTINE / URGENT (please circle)

- Monthly Teaching Clinic
- Referral Guidelines website
- Referrals received from:  
Community midwives, O&G Colleagues  
Local GPs, Tertiary referrals
- Pregnancy Referral Proforma

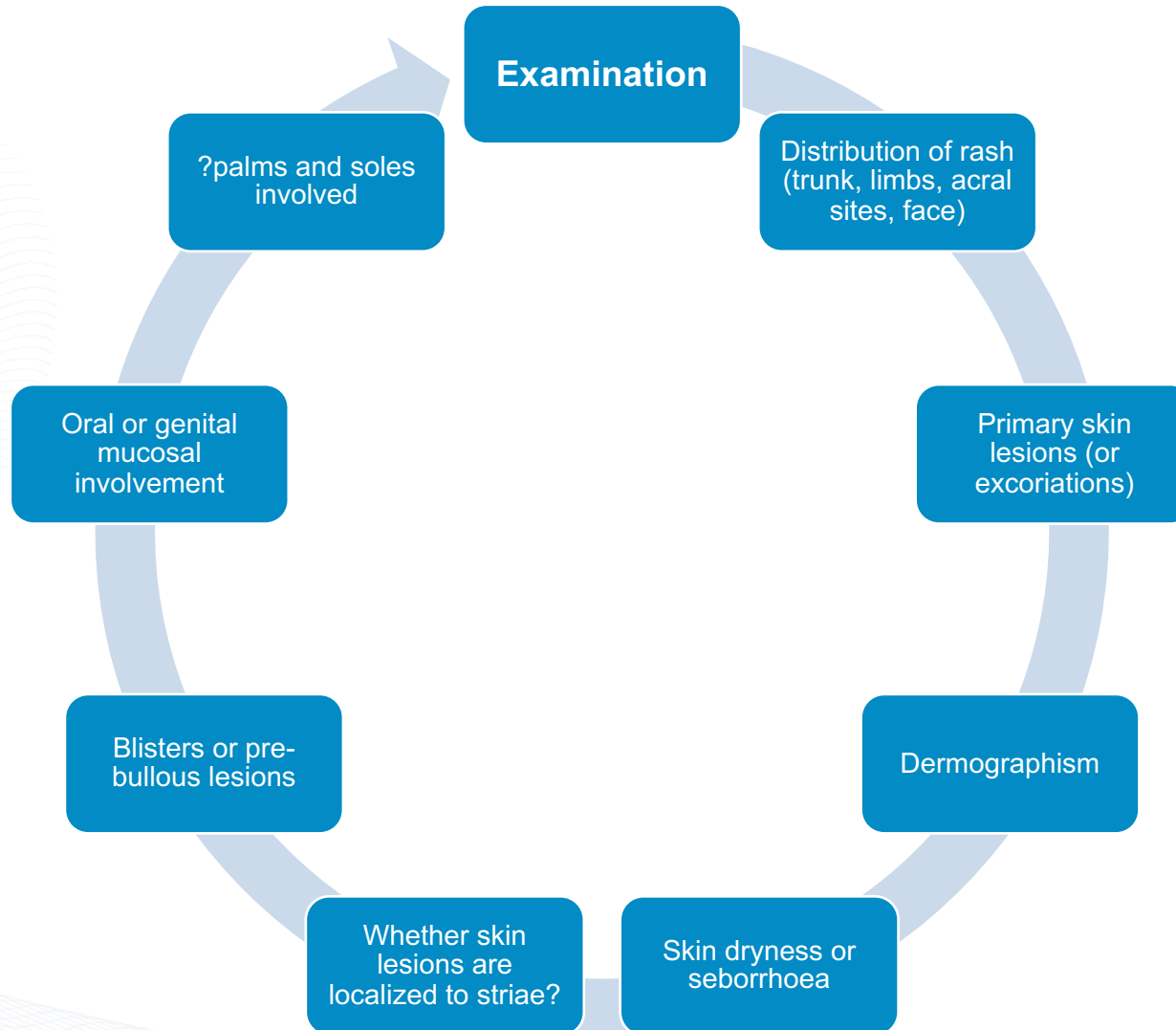


Patients first • Personal responsibility • Passion for excellence • Pride in our team

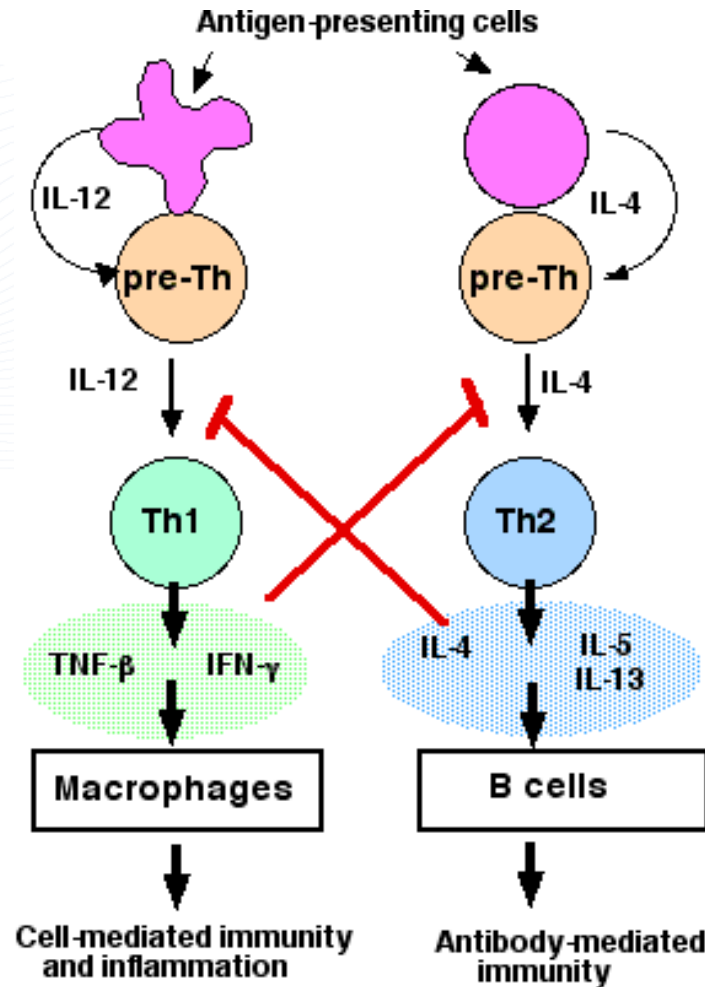
# THE PREGNANT PATIENT – HISTORY



# THE PREGNANT PATIENT – EXAMINATION

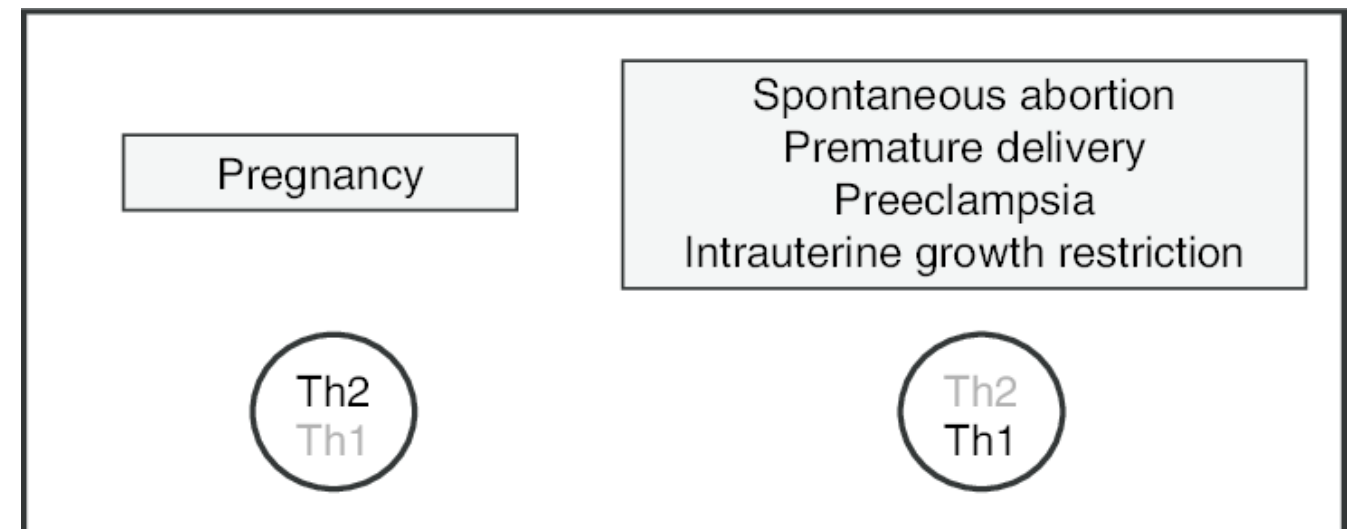


# IMMUNE CHANGES IN PREGNANCY



## For Normal Pregnancy & Foetal tolerance

- Increased tendency to Atopic disease (Th2)
- Increased susceptibility to infections – reduced CMI (Th1)
- Improvement in psoriasis (Th1)
- Increase in B cell autoantibdy production (Th2)



# PREGNANCY CLINIC 2023

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58 patients seen in 1 year

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AEP – 25 (43%)

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PEP – 10 (17%)

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Acne/Rosacea – 13 (22%)

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Pemphigoid gestationis – 1

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\*Miscellaneous – 9 (16%) – see below

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\* E. Nodosum, Skin infections, Psoriasis, Drugs, Pityriasis rosea



# CASES FROM THE PREGNANCY SKIN CLINIC



## Case 1. HISTORY

- 37 year old woman
- Atopic eczema (since aged 3).
- Currently 12/40 in 2<sup>nd</sup> pregnancy
- Previous Rx systemic steroids & Chinese herbs
- No previous phototherapy or systemic therapy
- Previously lived in Hong Kong
- Recent Rx – emollients only

# Case 1.



# Case 1. INVESTIGATIONS

- Blood results- FBC, U&Es, LFTs - normal.
- Serum Ferritin levels 37 (low normal).
- Serum IgE levels >5000
- Vitamin D levels 102 (normal).
- Skin swabs:
  - Heavy growth of Staph. aureus
  - Moderate growth of group A Beta haemolytic Strep.
  - Sensitive to Flucloxacillin & Phenoxymethylpenicillin.

# Case 1. TREATMENT

- Emollients – Menthoderm, CeraVe, Dermol 500 cream & lotion
- Topical Steroids – Dermovate, Elocon, Eumovate
- Flucloxacillin 500 mg qds & Phenoxymethylpenicillin 500 mg qds for 1 week.
- Ferrous sulphate 200 mg once daily.
- TCI- Protopic ointment 0.1% - twice daily to face & neck for 2-4 weeks
- Loratadine 10 mg daily.
- Tubifast bandages to arms and legs at night.
- Bleach baths twice weekly (using Milton sterilising fluid).
- Referral for Urgent Phototherapy - Narrowband UVB
- Oral prednisolone 30 mg daily - reducing by 5 mg/week (if needed)

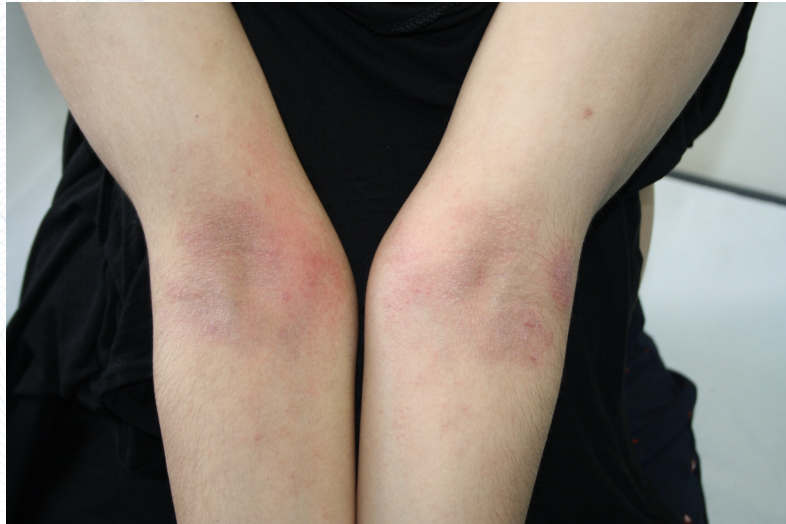
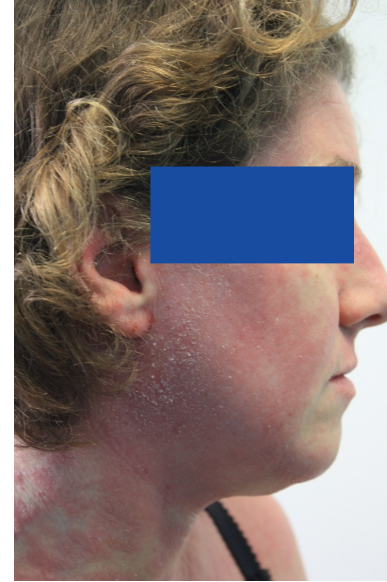
# Case 1. PROGRESS

- Good response to phototherapy
- Discussed systemic Rx- patient not keen on Ciclosporin or Dupilumab
- Awaiting delivery
- Continued phototherapy for rest of pregnancy
- Good response
- Oral prednisolone 5-10 mg daily – until delivery
- Maternal BP and urinalysis stable
- Baby born 2.3kg - small for dates
- No flare of eczema post partum

# ATOPIC ERUPTION OF PREGNANCY

- 80% cases present with de novo Atopic Eruption
- 20% pre-existing chronic Atopic Dermatitis (prev. pregnancies)
- Family history of atopy (eczema, asthma, hay fever)
- Rare in multiple pregnancy
- Onset in 2<sup>nd</sup> trimester
- Predominantly involving limbs > trunk
- Lesions Eczematous, Follicular, Papular, Urticated or Prurigo.
- Ix - Serum IgE levels may be elevated – often normal
- Ix - Iron deficiency may co-exist (check serum ferritin levels)

# ATOPIC ERUPTION OF PREGNANCY





# ATOPIC ERUPTION OF PREGNANCY & IDA

- 36 patients with AEP seen over last 2 years
- 18 patients with ferritin levels  $<30$  at presentation (50%)
- In 10 cases ferritin levels not measured (but Hb  $<105$ )
- In 2 cases ferritin levels  $<10\text{ng/ml}$
- Several patients had prurigo nodules

**Current Ix** – FBC, Blood group, Rhesus, Hep B,C, HIV, Syphilis

*Should serum ferritin levels be measured routinely at booking appointment (8 -12 weeks gestation)?*

# IRON DEFICIENCY/ ANAEMIA

- Iron is an essential element (oxygen transport, red cell production, DNA synthesis, muscle metabolism)
- Iron deficiency is the main cause of anaemia
- **Most prevalent nutritional deficiency worldwide**
- Iron deficiency anaemia affects:
  - 29% non-pregnant women
  - 38% of pregnant women
  - 43% of children worldwide



Serum Ferritin is 1<sup>st</sup> test to become abnormal as iron stores decrease (<30)

**WHO 2025 target – to halve global anaemia in women of reproductive age**

# IRON DEFICIENCY ANAEMIA IN PREGNANCY

Pregnancy causes 2-3 x increase in iron requirements

Anaemia - commonest medical disorder in pregnancy

Iron deficiency anaemia in pregnancy associated with:

- Increased maternal morbidity
- Infection
- Post partum haemorrhage
- Preterm labour
- Low birth weight
- Abnormal neonatal neurological development
- Autism, ADHD.



## *Risk factors for IDA*

- *Multiple pregnancy*
- *Multiparity*
- *Teenage pregnancy*
- *Previous anaemia*
- *Previous PPH*
- *Vegan/Vegetarian diet*
- *Malabsorption*
- *Recent bleeding*
- *Haemoglobinopathies*

# SYMPTOMS OF IRON DEFICIENCY ANAEMIA (IDA)

- Fatigue
- Dizziness & fainting
- Itching & skin dryness
- Pica (cravings for non-food items)

## Effects on Skin, Hair, Nails:

- IDA weakens the skin barrier
- Increased Transepidermal Water Loss
- Skin dryness (exacerbation of AEP)
- Telogen effluvium
- Nail splitting, breakage



## *Normal Haemoglobin in pregnancy*

1st Trimester - Hb >110

2<sup>nd</sup> Trimester - Hb >105

3<sup>rd</sup> Trimester - Hb >105

# DUPIUMAB

- Only used for severe, refractory disease
- IgG4 type IL4 / IL13 Monoclonal Antibody
- Transported across cord low conc in 1st & 2<sup>nd</sup> T
- Increased transport in 3<sup>rd</sup> T due to fetal Fc receptors developing
- No evidence of harm, animal studies no teratogenicity but VERY small numbers
- Classified in same category as Omalizumab as possibly safe - use in severe disease only
- **Small no. of case reports in AEP**

## Case Reports in Dermatology

Case Rep Dermatol 2021;13:248–256

DOI: 10.1159/000515246  
Published online: May 4, 2021

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## Case and Review

### Atopic Dermatitis Treated Safely with Dupilumab during Pregnancy: A Case Report and Review of the Literature

Dermatol Ther (Heidelb) (2020) 10:1215–1228  
<https://doi.org/10.1007/s13555-020-00457-w>

## REVIEW

### Immunosuppressive and Immunomodulating Therapy for Atopic Dermatitis in Pregnancy: An Appraisal of the Literature

Sofine Heilskov · Mette S. Deleuran · Christian Vestergaard

# PREGNANCY TREATMENT ALGORITHM

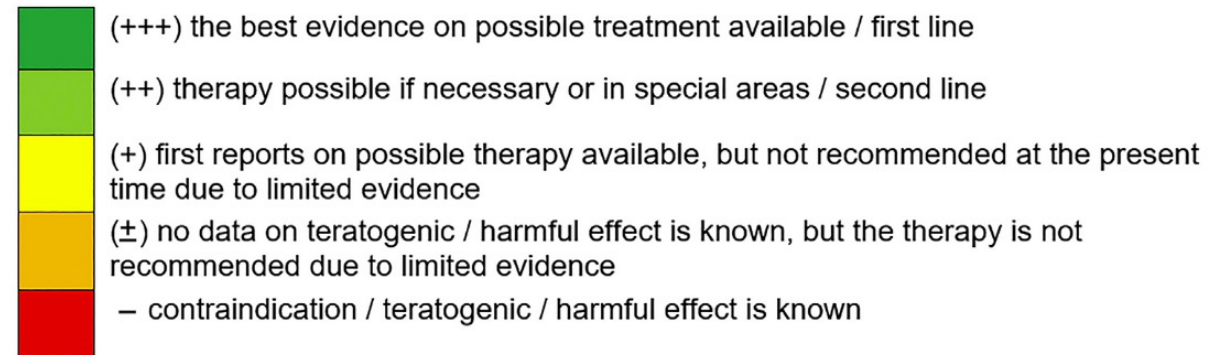
Substance	Recommended washout time before conception	Preconceptive	Pregnancy
<b>Topical therapy</b>			
Moisturizers	No restrictions	+++	+++
Mild- to medium-potency TCS §	No restrictions	+++	+++
High- to ultra-high-potency TCS	No restrictions	±	±
TCI	No restrictions	++	++
Crisaborole	NA	+	+
<b>UV therapy</b>			
Broad- or narrow-band UVB	No restrictions	+++	+++
UVA1	No restrictions	+++	+++
PUVA	3 months*	-	-
<b>Systemic therapy</b>			
SCS	No restrictions	++	++
CsA	No restrictions	+++	+++
MTX	3-6 months*	-	-
AZA	No restrictions	++	++
MMF	3 months *	-	-
Dupilumab	No restrictions	+	+
Tralokinumab	No restrictions	+	+
Baricitinib	1 week†	-	-
Upadacitinib	4 weeks†	-	-

## Systemic Drugs safe in Pregnancy:

- Systemic Corticosteroids
- Ciclosporin A
- Azathioprine

## Unsafe:

Methotrexate; Mycophenolate; JAK inhibitors  
Dupilumab – not recommended at present

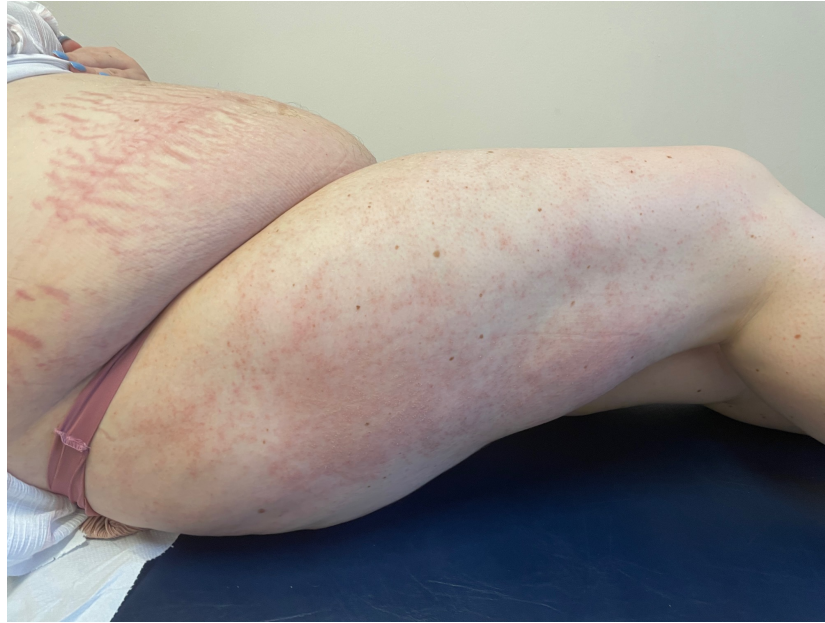


**FIG 5.** Summary on the use of AD drugs during pregnancy and before conception. AZA, Azathioprine; MMF, mycophenolate mofetil; NA, no information available; PUVA, Psoralen plus UVA; TCI, topical calcineurin inhibitor. \*Information from different expert recommendations and position papers. †Information available from product information (label). ‡For high-potency TCSs, the amount of 200 mg/mo should not be exceeded; ultra-high-potency TCSs should only be used as a short-time treatment, rescue therapy, or therapy in particular areas. §Fluticasone propionate is not recommended for use during pregnancy because of the lack of metabolism by the placenta.

## Case 2. HISTORY

- 35 year old woman
- Recent skin eruption – 2 days post partum
- Itchy skin eruption on lower abdomen, arms and legs
- Itchy rash in groins
- Some blisters on toes
- Twin pregnancy - emergency LSCS at 35 weeks gestation
- Gestational diabetes
- Iron deficiency anaemia

# Case 2.





# Case 2 - INVESTIGATIONS.

## Investigations:

- Full blood count normal
- Ferritin levels at 18 (January 2022) and low platelet count at 117.
- Previously elevated CRP levels - now normalising.
- Skin biopsy - consistent with Polymorphic Eruption of Pregnancy
- Direct IMF negative for IgG, C3, IgA and IgM.
- Mycology groins – positive
- **Working Diagnosis: Polymorphic Eruption of Pregnancy (+tinea pedis)**

## Case 2. TREATMENT

### Topical Treatment:

- Emollients - Dermol 500 cream, Doublebase gel – 2-3 x daily
- Mometasone cream once nocte - to residual areas.
- Clobetasone butyrate cream o/d to abdomen for 2- 4 weeks
- Terbinafine cream to groins twice daily

### Oral Treatment:

- Iron supplements - Ferrous Fumarate once daily

**Good response to treatment – skin cleared**

# POLYMORPHIC ERUPTION OF PREGNANCY

*Syn.: Pruritic urticarial papules and plaques of pregnancy (PUPPP)*

- Usually Presents in 1<sup>st</sup> pregnancy (Primigravidae 70%)
- Presents in late pregnancy - 3rd T or postpartum (15%)
- Commonest skin eruption in multiple pregnancy
- Starts on abdomen (striae) then spreads elsewhere
- ?Link to excessive maternal weight gain
- ?Link to male sex
- True aetiology still unclear

Rudolph CM et al., BJD 2006; Regnie et al., JAAD 2008

# Polymorphic Eruption of Pregnancy

Clinical variants

Target lesions / Erythema, 6%



Vesicles, 17%



Eczematous changes, 22%

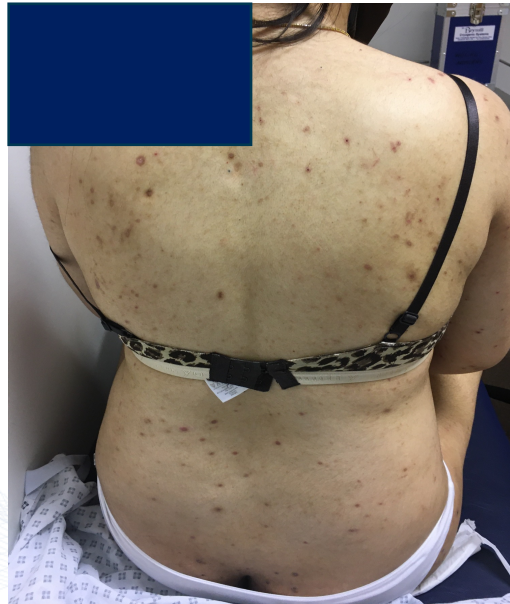
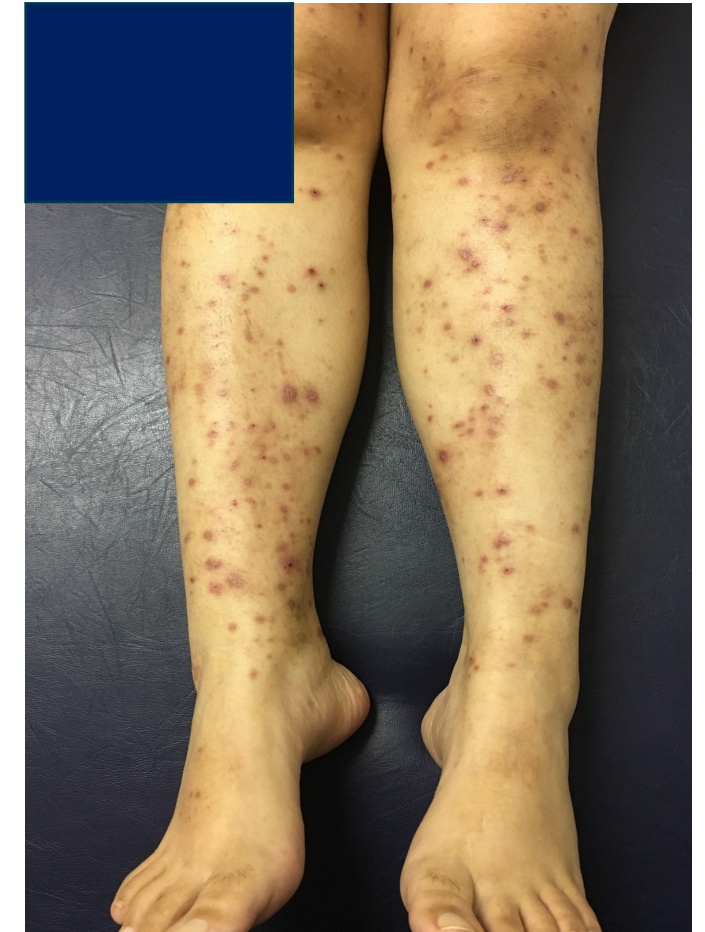
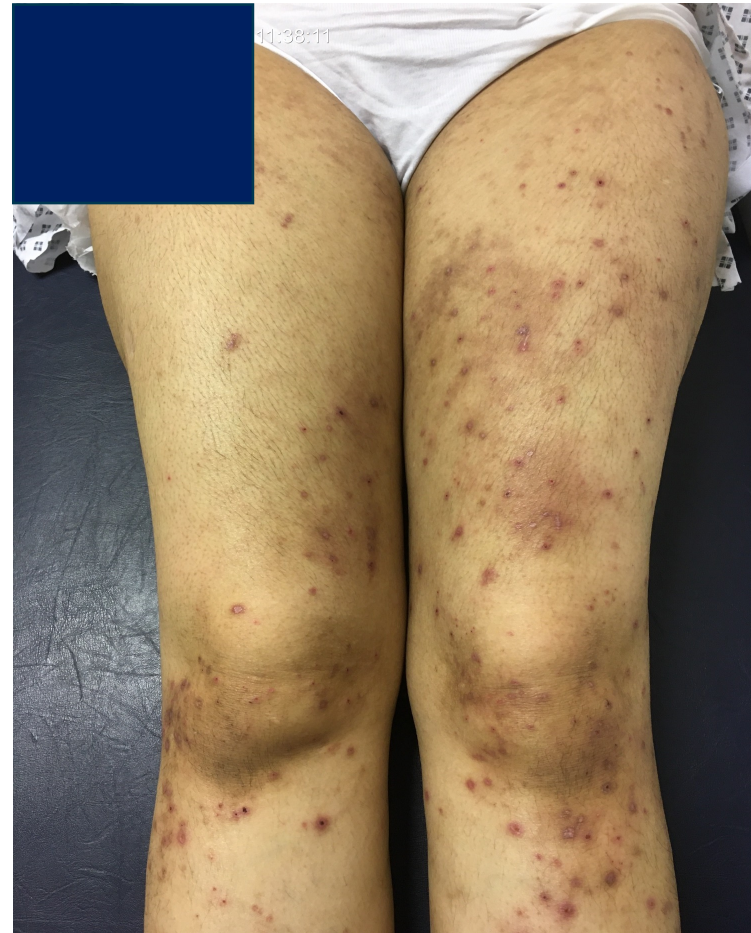


Rudolph CM et al. BJD 2006

## Case 3. HISTORY

- 35 year old woman – Middle Eastern origin
- Presented at 31/40 in 2<sup>nd</sup> pregnancy
- Previous miscarriage at 5/40 gestation
- PMH – acne, hay fever, iron deficiency
- **Sore patch on L buttock 6 months**
- **Itchy rash on arms and legs**
- GP prescribed 1% HC and Eumovate – made rash worse

# Case 3. EXAMINATION



# Case 3. DIFFERENTIAL DIAGNOSIS

- Fungal infection with secondary ID reaction
- Tinea Incognito
- Atopic eruption of pregnancy with iron deficiency
- Nodular prurigo (secondary to iron deficiency)
- Scabies?

# Case 3. INVESTIGATIONS

- Blood Results: FBC normal (Hb 131); Ferritin 26;
- LFTs & serum bile acids normal
- Vitamin D levels low at 28 (normal 50-150)
- Mycology scrapings – negative on Microscopy & Culture
- Skin swab – light growth Staph. Aureus (sensitive to Flucloxacillin)

**Presumed Diagnosis Fungal Infection (despite -ve mycology)**



# Case 3. TREATMENT

- Topical Terbinafine
- Flucloxacillin 500mg qds 1 week
- Ferrous sulphate 200mg twice daily; Vit D supplements 3000IU daily

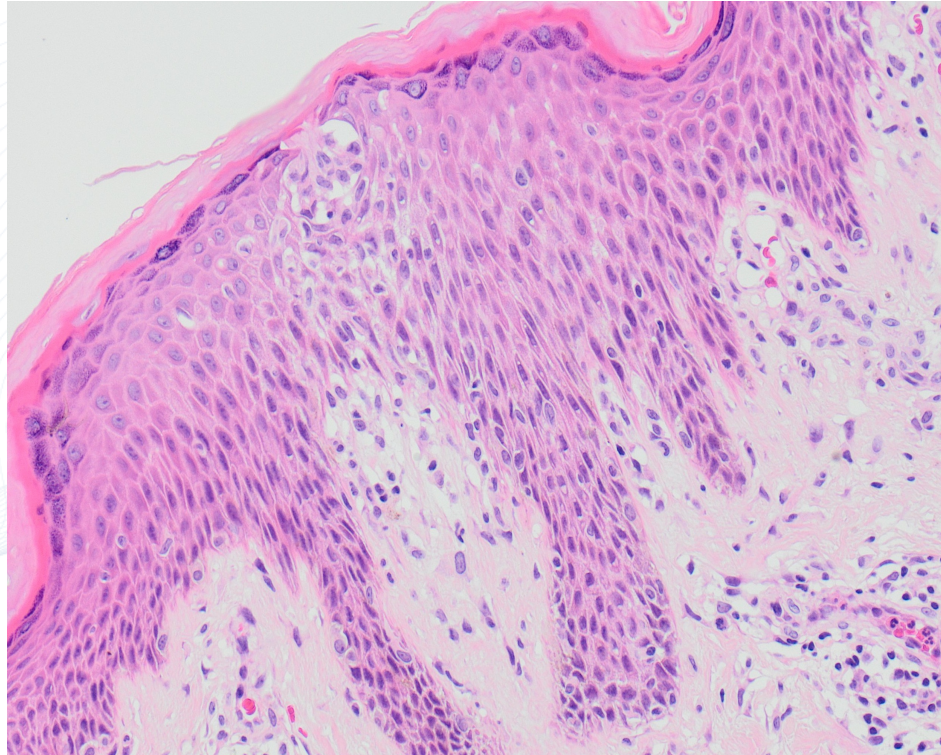
**Advised not to take oral antifungal Rx during pregnancy**

**Patient delivered baby girl at 34/40 – SVD – birthweight 2.08kg**

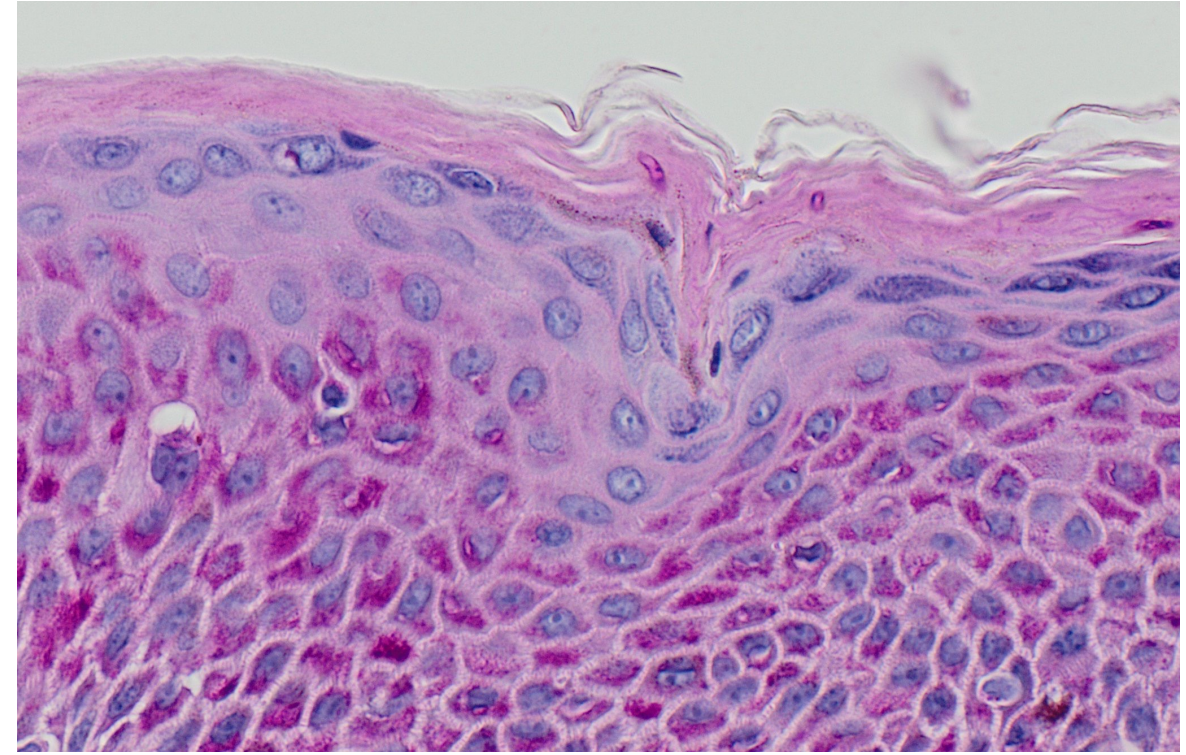
**No response to Topical Terbinafine**

- Postpartum Rx Terbinafine 250mg orally for 6/52 - No response
- Patient advised to express and discard breast milk
- **Presumed Diagnosis: Terbinafine - Resistant Fungal Infection**
- Skin biopsy for Histopathology & Culture recommended

# HISTOPATHOLOGY



**High power view - spongiosis**



**PAS stain positive**

**Skin biopsy L buttock :** PAS stain – occ fungi within keratin; Alcian blue stain - no increase in dermal mucin; No signs of scabies

## Case 3. MYCOLOGY

### Biopsy Culture Result (Bristol Reference Laboratory)

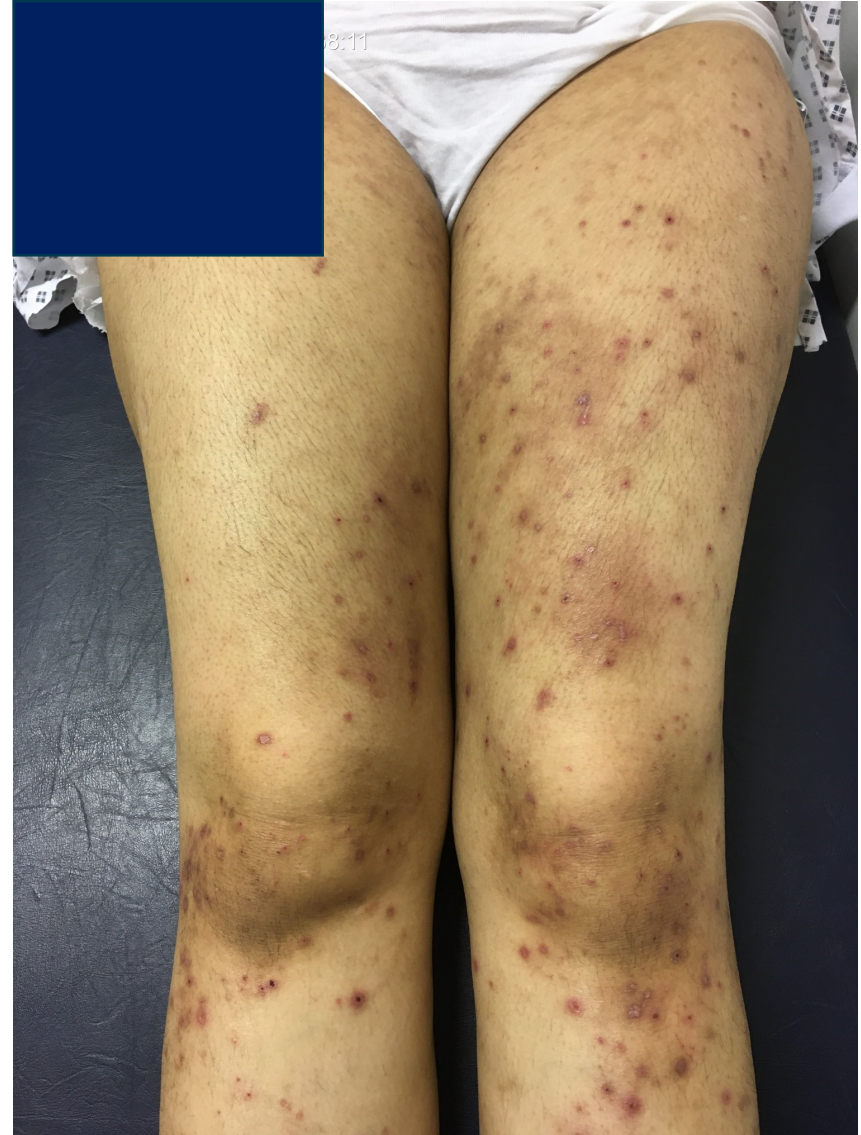
- **Trichophyton mentagrophytes:**
  - Sensitive to Itraconazole
  - Resistant to Terbinafine



**Trichophyton mentagrophytes**

## Case 3. TREATMENT

- Rx Itraconazole 100mg o/daily 4 weeks
- Discarded breast milk during Rx
- Good response to Treatment
- Itching & Eruption L buttock resolved
- Post-inflammatory hyperpigmentation



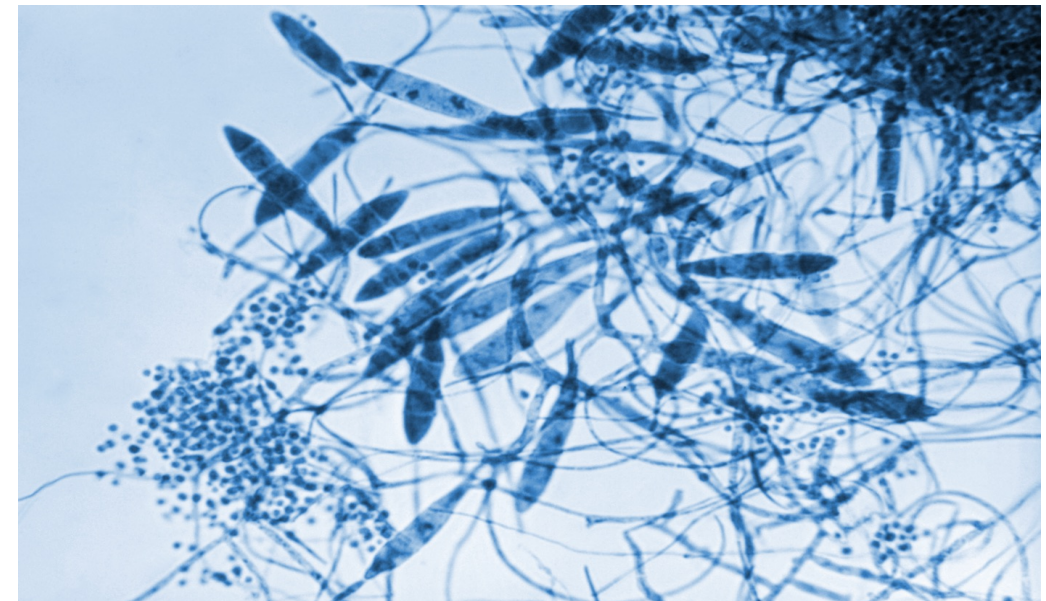
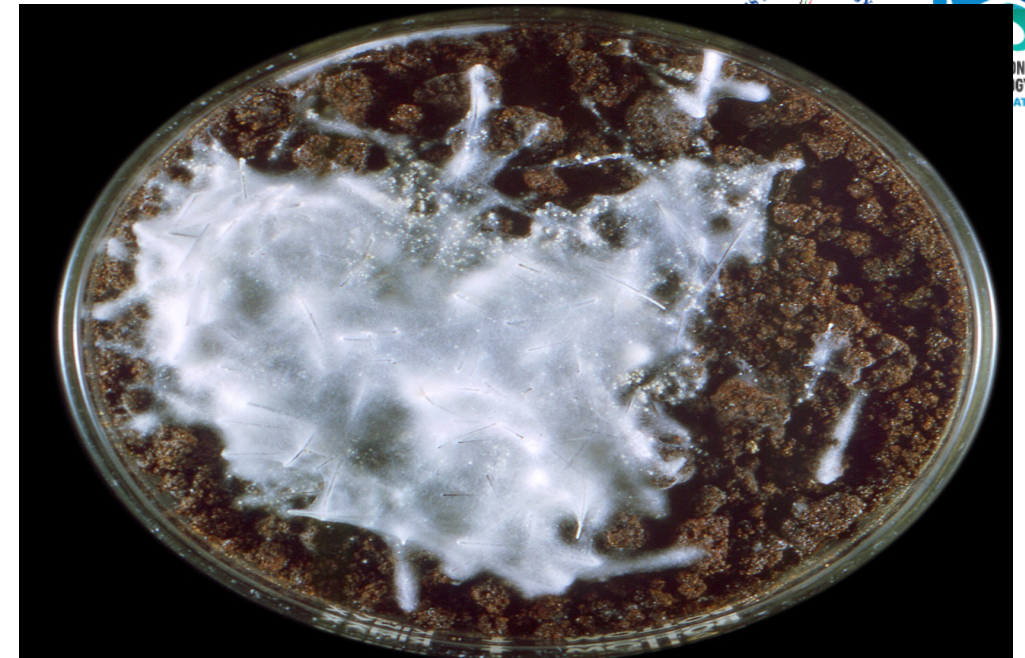
# Case 3. DISCUSSION

## Trichophyton mentagrophytes :

- Increase in cases of treatment-resistant tinea
- Particularly in South East Asia/India

## Possible reasons

- Combination topical applications (potent steroids and anti fungals)
- Changes in epidermophyte species.



## Case 4.

- 39 year old woman
- 22/40 gestation in 5<sup>th</sup> pregnancy
- 2 previous early miscarriages
- 2 live births (2 sons aged 6 and 8)
- Gestational diabetes mellitus
- Drugs - insulin & metformin
- Urticaria as teenager – worse in last pregnancy

## Case 4.



- Urticarial rash inner thighs, lower abdomen & arms
- Annular lesions on feet
- Dermographism

### Diagnosis:

? Urticaria ? Granuloma Annulare

? PG

- Rx Dermovate ointment to feet
- Loratadine 10mg daily

## Case 4.

- Skin Biopsy – discussed with patient
- Agreed not necessary as rash was mild
- Improved with treatment prescribed
- Discussed oral corticosteroids (patient not keen)

### **Clinical Review:**

- Patient delivered (SVD) at 37/40
- Baby girl 2.14kg (small for dates)
- Rash recurred day after delivery – worse



# Case 4.



# Case 4. Diagnosis

## Pemphigoid gestationis

### Risk factors:

- 2 previous miscarriages
- Premature delivery – 37/40
- Small baby 2.14kg
- Postpartum flare
- Urticarial pre-bullous lesions on soles of feet
- **Management** - Discussed blood test (indirect IMF)
- patient not keen as for academic interest only

# PEMPHIGOID GESTATIONIS

*Syn: Herpes gestationis*

- Hormonally triggered, bullous autoimmune disease
- Incidence: 1:2,000-1:50,000;
- Associated with HLA DR3 & DR4 subtype
- Onset in 2<sup>nd</sup> and 3<sup>rd</sup> Trimesters
- Also seen with trophoblastic tumours & hydatidiform mole
- Autoantibodies are directed against placental matrix antigens, corresponding to the 180 kDa BP-AG2 (type XVII collagen) in skin





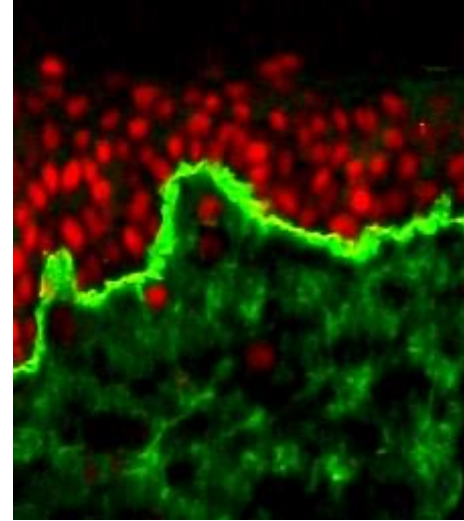
# PEMPHIGOID GESTATIONIS

## DIRECT IMF:

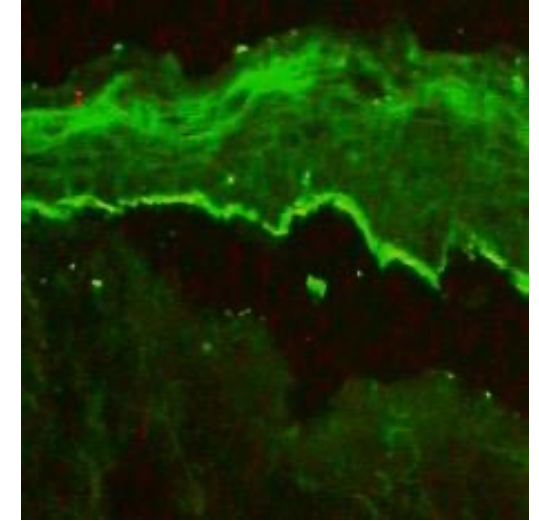
- Linear C3 BMZ deposition (100%)
- 20-25% weaker IgG deposition

## INDIRECT IMF:

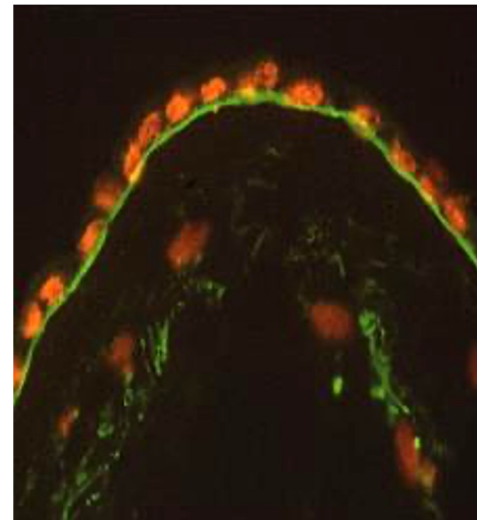
- Circulating complement fixing antibodies (HG factor) in most active cases IgG1 subclass



Direct IMF



Indirect IMF



Amnion

# PEMPHIGOID GESTATIONIS

- Risk for 'small-for-date babies' and prematurity
  - No association with corticosteroid treatment but with disease severity
  - Early start and blister formation
- Neonatal PG seen in 10% cases (passive transfer Ab's)
- Pre-partum: improvement
- Post-partum: flare in 75%
- Self-limited; recurrence with menstruation, hormonal contraception & subsequent pregnancies
- Flares in subsequent pregnancies – more severe, earlier gestation

# DERMATOLOGY TREATMENT IN PREGNANCY

## Useful Treatments

Emollients (+menthol 1-2%)

Topical corticosteroids (TCS)

Topical calcineurin inhibitors (TCI)

Phototherapy – narrowband UVB

Systemic antihistamines

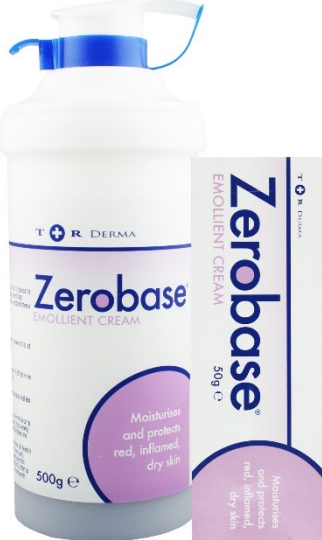
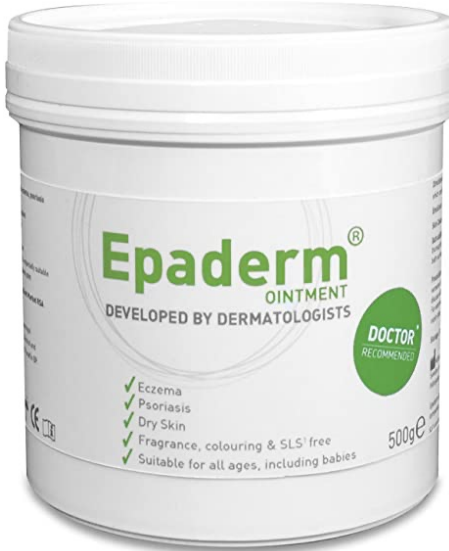
Systemic corticosteroids

Other Systemic drugs



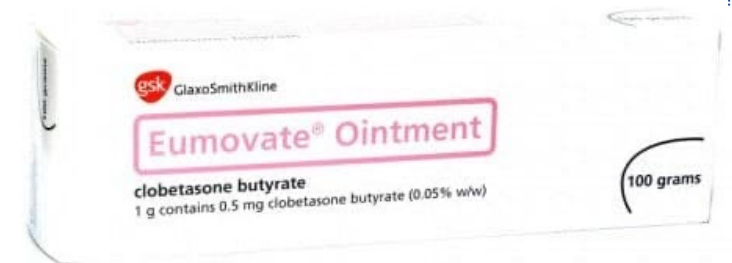


# EMOLLIENTS



# TOPICAL CORTICOSTEROIDS

- Population cohort study (Chi 2013) of 2658 pregnant women vs. 7246 controls
- Significant association between foetal growth restriction and maternal exposure to potent or very potent topical corticosteroids
- Increased risk of low birthweight when amount > 300g
- **Advice – \* restrict use of potent/ultra-potent topical steroids to <300g**
- **Caution on inner thighs, breasts, abdomen (↑ risk striae)**
- Recommend Mometasone furoate (Elocon) or
- Clobetasone butyrate (Eumovate) – less risk skin atrophy



*Systematic review of the safety of topical corticosteroids in pregnancy.*

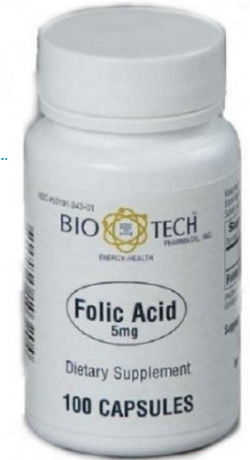
*Chi C C, Wang S-H, Kiritschig G et al. JAAD 2010; 62: 694-705*

*Evidence-based (S3) guideline on topical corticosteroids in pregnancy.*

*Chi C C, Kiritschig G, Aberer W et al. BJD 2011; 165: 943-952*

# PHOTOTHERAPY

- Narrowband UVB safest form of 2<sup>nd</sup> line therapy in pregnancy
- PUVA mutagenic and should be avoided
- Important to consider photo-degradation of Folic acid
- NB-UVB studies in pregnancy - reduction of folate levels from baseline
- Advise Folic acid supplements 5mg daily in women receiving NB-UVB



*Shaheen MA, Abdel Fattah NS, El-Borhamy MI. Analysis of Serum Folate Levels after Narrowband UVB. Egyptian Dermatology Online Journal 2006, 2 (1): 15.*

*Rose RF, Batchelor RJ, Turner D, Goulden V. Narrowband ultraviolet B phototherapy does not influence serum and red cell folate levels in patients with psoriasis. JAAD 2009; 61(2): 259-62.*



# ORAL ANTIHISTAMINES

- Sedating 1<sup>st</sup> generation: Chlorpheniramine, diphenhydramine
- Non-sedating 2<sup>nd</sup> generation:
- **1<sup>st</sup> choice: Loratadine**
- 2<sup>nd</sup> choice: Cetirizine
- Also safe to continue while breastfeeding
- No increased risk for teratogenicity or malformations
- **Advise Caution in last 4 weeks of pregnancy**
  - uterine contractions
  - withdrawal symptoms
  - retrolental fibroplasia in premature infants



*Schaefer et al. Drugs in pregnancy & lactation, 8<sup>th</sup> Ed, Elsevier 2012*

*Murase JE, JAAD 2014*

# SYSTEMIC CORTICOSTEROIDS

- **Oral Prednisolone EC** systemic corticosteroid of choice
- Largely inactivated in the placenta (10:1)
- Non-halogenated (unlike Betamethasone/Dexamethasone)
- **1st trimester:** ?possible risk for cleft lip/palate (animal studies only)
- Recommended dose 0.5mg/kg – for 3-4 weeks (tapering dose)
- If longer consider alternative 2nd line agent (Ciclosporin)
- **2nd-3rd trimester:** Long term Rx- growth restriction & adrenal insufficiency
- Increased risk of maternal gestational diabetes and hypertension
- Omeprazole and Calcium/Vitamin D can be given safely to reduce side effects



*Chi C et al JID 2011; Cochrane Database Syst Review 2009:CD007346*  
*Schaefer et al. Drugs during pregnancy and lactation, 8<sup>th</sup> ed, Elsevier, 2012*



# EADV PREGNANCY TASK FORCE

## Skin Diseases in Pregnancy - leaflets



ABOUT EADV ▾ EVENTS ▾ SCIENTIFIC ▾ MEMBERSHIP ▾ EDUCATION ▾ JOURNALS ▾ FUNDING ▾ PATIENT CORNER ▾

MyEADV



EADV Task Force 2009



### PATIENT LEAFLETS

The European Academy of Dermatology and Venereology (EADV) produces patient information leaflets on a variety of skin conditions. These leaflets are created by EADV Task Forces, which are groups of expert dermatologists and healthcare professionals who specialize in specific skin conditions.

The EADV patient leaflets aim to provide accurate and reliable information to patients and their families about various skin conditions, their causes, symptoms, and available treatments. They also provide practical advice on how to manage these conditions, such as tips on how to care for the skin and how to avoid triggers that may worsen the condition.

The leaflets cover a wide range of skin conditions, including acne, eczema, psoriasis, rosacea, skin cancer, and many others.

The EADV patient leaflets are a valuable resource for patients and healthcare professionals alike, providing reliable and up-to-date information on a range of skin conditions. They can help patients better understand their condition and how to manage it, and can also assist healthcare professionals in providing effective patient care and support.




**Please note that some patient leaflets are in the process of being updated. New versions will be available soon.**



# EADV PREGNANCY TASK FORCE

## Skin Diseases in Pregnancy - leaflets

### SKIN DISEASES IN PREGNANCY

- NEW** Acne in pregnancy
- NEW** Atopic eruption in Pregnancy (AEP) - *NEW*
- NEW** Common skin changes during pregnancy
- NEW** Genital Condylomata in Pregnancy
- NEW** Genital Herpes
- NEW** Intrahepatic Cholestasis of Pregnancy (ICP)
-  Lupus Erythematosus
- NEW** Moles and malignant melanoma
-  Mollusca Contagiosa
-  Pemphigoid Gestationis (PG)
- NEW** Polymorphic eruption of pregnancy (PEP)
- NEW** Psoriasis in pregnancy and during breastfeeding
-  Pytiriasis Rosea
- NEW** Rosacea in pregnancy
- NEW** Scabies in pregnancy
- NEW** Use of biologics during pre-conception, pregnancy & breastfeeding
- NEW** Use of steroid creams in pregnancy
-  Vulvo-vaginal candidiasis (Thrush)



Information Leaflet  
for Patients

Rosacea in  
Pregnancy



# QUESTIONS?

