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Short Communication

Skin disorder in pregnancy

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Abstract

Pregnancy is a turning point in women's life. There are so many physiological changes preparing the mother to adapt to the fetus. The change in the woman's immune system, with a shift from a predominantly T helper 1 lymphocyte profile to a T helper 2 profile, may underlie a woman's susceptibility to skin disease [1]. There are other factors like endocrine, metabolic, mechanical, and vascular changes which influence on skin changes [2].

Skin is a barrier and a front-line defense against the invasion of microorganisms. Its integrity provides the physical barrier as it contains the important bioactive molecules such as defensins and *Cathelicidins*. The presence of the skin microbiota made up of microorganisms such as *Staphylococcus epidermidis, Propionibacteria, Corynebacteria* and negative *Coagulase staphylococci* play their role to prevent the invasion from various organisms [3]. Still, the skin changes or diseases in pregnancy will challenge the medical professionals in primary care. It may be due to limited teaching in medical school over this specific area. Most practitioners including, us feel unprepared or unconfident once addressed to these cases. This short communication is intended to cover the physiological skin changes in pregnancy and to tackle the case with systematic history taking and competent clinical examination. These factors, together with appropriate laboratory tests, can help the clinician achieve the correct diagnosis, and point towards the identification of the underlying causative agent.

Literature Review

They are categorized into three types in general: normal physiological changes or benign skin conditions, exacerbations of preexisting conditions triggered by pregnancy, and specific dermatoses of pregnancy [4,5].The normal physiological changes are hyperpigmentation, hair changes, nail changes and pruritus gravidarum (common in the first and second trimester) and some glandular changes like increased activity in sweat glands and sebaceous glands. These changes are caused by increased secretion of pituitary Melanocyte- Stimulating hormone, steroids and pregnancy hormones such as estrogens and progesterone. The preexisting conditions like psoriasis improves in most of the cases. Eczema and atopy are commonly exacerbated by pregnancy. There are other skin conditions like acne vulgaris, scabies and fungal infection which may exacerbate during the pregnancy. The dermatoses of pregnancy are assumed to be developed from changes in immunologic, hormonal and metabolic system [6]. Their characteristics are summarized in the following (Table 1).

Table 1: Table of specific dermatoses of pregnancy.

	Polymorphic Eruption of Pregnancy	Pemphigoid Gestationis	Atopic Dermatitis	Prurigo Of Pregnancy	Pruritic Folliculitis of Pregnancy
Synonym	Pruritic urticarial papules and plaques of pregnancy (PUPPP)	Herpes Gestationis	Atopic Eruption of Pregnancy (Called collectively by new classification: Rudolph 2006)[7]		
Incidence	Commonest	Rare	1 in 300		
Parity	Primip		Primip		
Onset	Third Trimester	Before third trimester	Before Third Trimester		2nd to 3rd trimester

aetiology	Unknown	Autoimmune	Dominant T helper 2 immune response		Unknown
Predisposing factor	Multiple pregnancy, Male (55%)	Multiple pregnancy/ COCP/Gestational Trophoblastic disease			After systemic steroids/ progestogen
Nature of rash	Erythema, papules	Annular weals, vesicles, bullae		Crusted papules, grouped	Follicular erythematous papules
Area of distribution	Abdomen sparing umbilicus, spread to thighs, buttock (spare palms and soles)	Abdomen including umbilicus, spread to limbs, generalized bullous	Flexural surfaces,face, neck, trunk	Extensor surfaces of extremities, trunk	Trunk
Associated symptom	Urticaria	Urticaria	Urticaria Personal/family history of atopy	Urticaria, Family history of ICP	
Effect on fetus	No effect	LBW, Preterm, SB	No effect	No effect	No effect
Diagnosis	Clinical	Biopsy	Serum Ig E	Serum Ig E increased	
			increased		
Immunofluorescence	Negative	Linear deposition of C3 along basement membrane		Negative	Negative
Resolution	Postpartum	Postpartum	Postpartum	Postpartum	Postpartum
Treatment	Emollients,	Antihistamine, steroid, IV Immunoglobulin,Plasma pheresis		Mod potent topical	Low to mid potent topical steroids
	Mod potent topical steroids			steroids, oral antihistamines	
Recurrence	No	++	+	+	+
PP flare		+			

Practical Approach

Table 2: Highlights how to approach to the patient with skin disorder-Practical approach.

History	Examination
Age, Parity	Inspection- site/area of involvement
Previous history	Morphology of rash = Papule/ macule/vesicle/ erythema
Onset, area of distribution	Signs of inflammation, scaling,
Timing to pregnancy gestation	Discharge
Predisposing factor like COCP	Margin
Associated symptoms like fever, itchiness, rash	Lymph nodes drained
Personal history/Family history	Base/edge
Past medical history like Diabetes, Asthma, SLE	
Drugs	
Remission	
Previous medication	

(Tables 2 & 3) Dermatologists input is very important and helpful as skin biopsy for histopathological examination and immunofluorescence test to exclude specific skin disease. Treatment consists of simple measures like avoiding the irritants, applying emollients and symptomatic treatment like antihistamines. Steroids play an important role in the management. There are concerns over the safety of steroids usage in pregnancy. Recent evidence showed that there was no association between maternal use of topical steroids and orofacial cleft, preterm delivery or fetal death. There was a significant association between fetal growth restriction and maternal use of potent and ultra-potent topical steroids. Therefore, the recommendation is to use topical corticosteroids at the lowest potency possible to control the condition being treated. The risk of adverse effects increases with potency and the amount and length of time used [8-15].

Table 3: Shows the necessary laboratory tests to get the final diagnosis-Basic investigations.

Investigations	
CBC count with differential	To rule out infection and other haematologic manifestations
Creatinine/BUN	To rule out renal failure
Liver Function Test	To exclude intrahepatic cholestasis of pregnancy
Thyroid Function Test	ruling out hypothyroidism and hyperthyroidism.
Fasting Blood Sugar	Exclude diabetes
Stool for occult blood	possible malignancy in the GI tract
HIV	Exclude HIV manifestations

Conclusion

In conclusion, interdisciplinary approach with involvement of obstetricians, paediatricians, dermatologists and physicians will lead to achieve the best outcome in their management. Early

recognition, timely referral and adequate, effective treatment will reduce the short-term and long-term morbidity in both mother and foetus.

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