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Original Article

Study of dermatoses of pregnancy

Vinita Gupta

Department of Dermatology, Shree Guru Gobind Singh Tricentenary Medical College, India

Abstract

Objective To determine the clinical pattern and incidence of various skin changes of pregnancy.

Methods All pregnant females reporting to antenatal clinic of SGT Medical College and Hospital during the period of one year were included in this study.

Results A total of 341 pregnant women were enrolled in the present one year long study out of which 194 (56.9%) were primigravidas and 147 (43.1%) were multigravidas. Maximum incidence of 78% was found in the age group between 15-25 years of age. Physiological changes were seen in all the pregnant females while dermatoses affected by pregnancy were reported in only 12.3% cases. Dermatoses specific for pregnancy were found in 7.9% cases.

Conclusion Clinicians must be able to distinguish physiological changes of pregnancy from several other dermatoses that can present during the period of pregnancy in order to provide timely management and thus reducing maternal and fetal morbidity.

Key words
Pregnancy, dermatoses, skin.

Introduction

Cutaneous changes and eruptions during pregnancy are exceedingly common and in some cases a cause for substantial anxiety on the part of the prospective mother. Some of these are benign and reversible after delivery whereas others can have potential effects on fetus in terms of morbidity and mortality.[1] Likewise, the concerns of the patient may range from cosmetic appearance, to chance of recurrence of the particular problem during a subsequent pregnancy, to its potential risks on fetus.[2] There are three general categories of pregnancy-associated skin conditions: 1) benign skin conditions from normal hormonal changes or physiological skin changes, 2) preexisting skin conditions that change during pregnancy or skin diseases affected by pregnancy, and 3) pregnancy-specific dermatoses.[3] Physiological skin changes include striae gravidarum, hyperpigmentation and hair, nail and vascular changes. Preexisting skin conditions that may be affected by pregnancy include psoriasis, atopic dermatitis, candidal and other fungal infections, benign appendageal lesions and many more. True dermatoses of pregnancy include pruritic urticarial papules and plaques of pregnancy (PUPPP), prurigo of pregnancy, intrahepatic cholestasis of pregnancy, pemphigus gestationis, impetigo herpetiformis and pruritic folliculitis of pregnancy.

Address for correspondence
Dr. Vinita Gupta, Associate Professor
Department of Dermatology
Shree Guru Gobind Singh Tricentenary Medical College, Haryana, India
Email: vinitagupta4@gmail.com

Methods

The study comprised of all pregnant females reporting to antenatal clinic of SGT Medical College and Hospital during the period between January, 2014 to December, 2014 were included in this study. A total of 341 pregnant women

were included in the study. Informed consent was obtained before the interview and clinical examination.

All patients were subjected to detailed history and thorough clinical examination to note all the physiological and pathological mucocutaneous changes. Type of skin lesions and dermatoses were broadly divided into three categories: 1) Physiological cutaneous changes; 2) Skin diseases (preexisting or newly occurring) affected by pregnancy); and 3) Pregnancy specific dermatological disorders.

Routine blood, urine and stool examination, and screening with VDRL and ELISA for HIV were done in all cases. In patients with white discharge, a KOH mount, saline mount and gram staining were done.

Results

A total of 341 pregnant females were included in the one year study conducted between January 2014 to December 2014. Patients were divided in age groups between 15-25 years (266 cases, 78%) and 26-40years (75 cases, 22%). Of these 194 (56.9%) females were primigravidas and 147 (4.1%) were multigravidas. Most of them presented in their third trimester (222, 65.1%) followed by second (75, 22%) and first trimester (44, 12.9%).

Pruritus was the commonest symptom reported accounting for 18.2% (62) of the patients, followed by white discharge per vagina (21, 6.1%).

Physiological changes were seen in 100% of cases, while dermatoses modified by pregnancy were observed in 12.3% cases and only 7.9% had dermatoses specific for pregnancy. Among the physiological changes, most common were the pigmentary changes including linea nigra, areolar pigmentation and melasma followed by connective tissue changes mainly including striae gravidarum **(Table 1)**.

Table 1 Physiological changes of pregnancy (n=341).

Cutaneous manifestations	*N*	*(%)*
Hyperpigmentation		
Linea nigra	291	(85.3)
Areolar hyperpigmentation	280	(82.1)
Melasma	34	(10)
Nevi darkening	2	(0.6)
Recent scar pigmentation	1	(0.3)
Pigmentary demarcation lines	1	(0.3)
Connective tissue changes		
Striae gravidarum	299	(87.7)
Skin tags	9	(2.6)
Vascular changes		
Edema	122	(35.8)
Gingivitis	21	(6.1)
Varicosities	4	(1.2)
Palmar erythema	4	(1.2)
Spider nevi	2	(0.6)
Vulval edema	1	(0.3)
Hair changes		
Male pattern alopecia	4	(1.2)
Hirsutism	2	(0.6)
Increased hair growth	2	(0.6)
Nail changes		
Brittleness	6	(1.8)
Transverse grooving	3	(0.9)
Subungual hyperkeratosis	1	(0.3)
Onycholysis	1	0.3)
Glandular changes		
Acne	32	(9.4)
Montgomery tubercles	22	(6.4)

* more than one dermatoses were present in many cases

Table 2 enlists the frequency of dermatoses affected by pregnancy. Candidal vaginitis (13, 3.8%) was found to be the most common dermatosis affected by pregnancy closely followed by acne vulgaris (9, 2.6%) and eczemas (6, 1.8%).

Total of 37 females were diagnosed of pregnancy specific dermatoses of which 19 (5.6%) had pruritic urticarial papules and plaques of pregnancy **(Table 3)**.

Table 2 Dermatoses affected by pregnancy (n=340).

Diseases *	*N*	*(%)*
Candidal vaginitis	13	(3.8)
Acne vulgaris	9	(2.6)
Skin tags	9	(2.6)
Eczema	6	(1.8)
Tinea corporis	3	(0.9)
Herpes genitalis	2	(0.6)
Herpes zoster	2	(0.6)
Urticaria	2	(0.6)
Psoriasis	2	(0.6)
Verucca vulgaris	1	(0.3)
Condylomata acuminata	1	(0.3)
Milia en plaque	1	(0.3)

* more than one dermatoses were present in many cases.

Table 3 Pregnancy-specific dermatoses (n=340)

Diseases *	*N*	*(%)*
Pruritic urticarial papules and plaques of pregnancy	19	(5.6)
Pruritus gravidarum (intrahepatic cholestasis of pregnancy)	4	(1.2)
Prurigo of pregnancy	12	(3.5)
Pemphigus gestationis	1	(0.3)
Pruritic folliculitis of pregnancy	1	(0.3)

* more than one dermatoses were present in many cases.

Discussion

Pruritus was reported to be the commonest symptom with incidence of 18.2% in the present study. According to Winton *et al*.[4] pruritus from all cases may occur in 17% of pregnant women, while Wong *et al*.[5] and Roger *et al*.[6] reported incidence of pruritus in 20% and 18% respectively.

Candidal vaginitis was found to be the most common cause for vaginal discharge. That monilial vaginitis is 10 to 20 times more common during pregnancy has been supported by Winton *et al*.[4] and Dotz and Berman.[7]

Physiological changes were seen in all the pregnant females. Several other studies have reported physiological changes in upto 100% cases.[8,9] Pigmentary changes were noticed in all the cases.[3] Striae were found to be the commonest physiological change (87.7%) closely followed by linea nigra (85.3%) and areolar hyperpigmentation (82.1%). Other less commonly encountered physiological changes were melasma, gingivitis, acne, Montgomery tubercles, hair and nail changes.

The most common physiological changes are pigmentary alterations, stretch marks, vascular spiders and telogen effluvium.[10] Pigmentary changes occurred in 98.8% of the patients.[11] Similar incidences have been reported by other authors.[4,5,7] Incidence of melasma was reported to be 10% similar to the finding of Shivakumar and Madhavamurthy[11] and Raj *et al*.[12]

In our study, striae gravidarum were seen in 299 (87.7%) cases. Few studies have shown incidences between 60% to 80%[8,9,11,12] while others have reported incidences upto 90%.[1,5,7]

Montgomery's tubercles are well known during pregnancy in 30-50% of pregnant women.[10] In our study, Montgomery's tubercles were seen in 22 (6.4%) cases. This was found to be consistent with other studies.[13]

Vascular changes result from distension, instability and proliferation of vessels[4] and were seen in 45.2% of cases. Nonpitting edema over hands, feet and face was observed in 35.8% cases. Muzaffar *et al*.[8] reported edema in 48.5% whereas Rashmi *et al*.[9] reported it in 9.8%. Varicosities were seen in 1.2% comparable to other studies.[8,12]

Gingivitis may occur in upto 100% of pregnant women with varying degree of severity[5], however, we noted only 6.1% cases of gingivitis. A bit higher percentage has been reported by other authors.[8,13]

PUPPP was the commonest specific disorder of pregnancy accounting for 5.6% followed by

prurigo of pregnancy in 12 (3.5%) cases and pruritus gravidarum (also known as intrahepatic cholestasis of pregnancy) in 4 (1.2%) cases. Similar to our study, PUPPP was reported as the commonest specific dermatoses of pregnancy in study by Kumari *et al*.[9] accounting for 63.6% cases followed by pruritus gravidarum while Shivakumar and Madhavamurthy[11] reported prurigo of pregnancy as the commonest specific dermatoses of pregnancy with incidence of 9.4% followed by pruritus gravidarum.

Conclusion

To conclude, a variety of cutaneous lesions can be seen in pregnant women which need a meticulous examination and investigations to reach a correct diagnosis enabling careful management in an effort to minimize maternal and fetal morbidity.

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