

PREGNANCY DERMATOSES

Tina Priscilla Katta¹, Vijayalaxmi Panthalla², Harshita Reddy Bondugula³, Praneeth Gunda⁴

¹Assistant Professor, Department of DVL, Apollo Institute of Medical Sciences, Hyderabad.

²Assistant Professor, Department of DVL, Kurnool Medical College, Kurnool, Andhra Pradesh.

³Senior Resident, Department of DVL, Apollo Institute of Medical Sciences, Hyderabad.

⁴Assistant Professor, Department of DVL, Apollo Institute of Medical Sciences, Hyderabad.

ABSTRACT

BACKGROUND

Pregnancy is a physiological status of a woman. Every organ is adapting in order to accept another human body. The main changes occur in the endocrine, immune, metabolic and vascular systems. The skin is no exception. Many skin changes during pregnancy are considered to be normal or physiological including striae gravidarum or melasma. These physiological skin changes are usually well tolerated by the pregnant woman. There is no balance between these systems, however, and abnormalities can appear. Immunologic status of the woman plays an important role in the manifestations exhibited in the skin. Alterations of the skin during pregnancy can be classified as physiologic skin changes, changes in pre-existing skin diseases and specific dermatoses of pregnancy.

MATERIALS AND METHODS

200 pregnant women with skin manifestations attending Dermatology and Obstetric departments attached to Government General Hospital, Kurnool, were studied.

1. A detailed proforma was taken, which included:
 - a. Detailed history including chief complaints related to skin.
 - b. Onset in relation to duration of pregnancy.
 - c. Complete general physical and systemic examination.
 - d. Associated skin/medical disorders.
2. Investigations-CBP, CUE, RBS, LFT, HBsAg, VDRL, HIV 1 and 2 were done routinely.
3. KOH mount, saline mount and skin biopsy performed wherever required.

Inclusion criteria- All pregnant women having skin lesions were included in the study irrespective of the duration of pregnancy and gravidity.

Exclusion criteria- Pregnant women having any underlying medical diseases. All pregnant women attending antenatal OPD and those admitted into wards having symptoms related to skin and mucosa, at KIMS Hospital are studied.

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4. Associated skin/medical disorders.
5. Investigations-CBP, CUE, RBS, LFT, HBsAg, VDRL, HIV 1 and 2 were done routinely. KOH mount and skin biopsy performed wherever required.
6. Proforma used to record the above information.

RESULTS

In this study, a total number of 200 women were enrolled. Pigmentation of the skin was the commonest change observed in 96% of the cases. Striae were observed in 99.1% of multipara women on abdomen where as they were observed in 89.2% of primies. Specific dermatoses of pregnancy were found in 11 out of 200 patients (5.5%). Pruritus gravidarum is the most frequent dermatosis occurring 4 out of 11 patients (36.36%). Prurigo gestationis was observed in 3 out of 11 patients (27.2%). Polymorphic eruption of pregnancy was observed in 2 out of 11 patients (18.8%). Among 200 patients examined, 42 diseases were diagnosed with respect to Dermatology, Leprology and Venereology in 134 patients.

CONCLUSION

This study emphasises the need for a scrupulous and meticulous search for dermatological and sexually transmitted disease instead of routine regular antenatal checkups and dismissing the patients with symptoms attributing them to the normal course of pregnancy.

KEYWORDS

Pregnancy, Prurigo, Trimester, Dermatoses.

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Corresponding Author:
 Dr. Tina Priscilla K,
 Flat. No. 403, Supercarona Apartments,
 Near Heritage Mart, Ou Colony Main Road,
 Shaikpet, Hyderabad.
 E-mail: dr_tina_k@yahoo.com
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BACKGROUND

Pregnancy is a period of profound endocrine and metabolic changes, which are tolerated by the body for a relatively short time. During gestation, both physiological and pathological changes can occur in the skin, nails and hair shafts. Pregnant women are susceptible to the same skin disorders as non-pregnant women. There are also pregnancy specific skin disorders, which are important to be recognised by the dermatologists. The skin is affected in various ways in pregnancy. Previously, normal skin may show changes, pre-existing dermatoses may become aggravated or improved during pregnancy.

AIMS AND OBJECTIVES

Dermatoses during pregnancy is a relatively new subject and falls in the realm of exploration. Hence, we have taken up the subject of the clinical study of dermatoses during pregnancy.

1. To ascertain the incidence of various dermatoses in pregnant patients attending the Department of Dermatology and Department of Obstetrics and Gynaecology, Government General Hospital, Kurnool.
2. To know the influence of pregnancy on various dermatoses that occur during pregnancy.

MATERIALS AND METHODS

200 pregnant women with skin manifestations attending dermatology and obstetric developments attached to

Government General Hospital, Kurnool, were studied. A detailed proforma is prepared with reference to onset, duration, progression, sites involved, appearance, presence of similar conditions during previous pregnancies presence of disease in the other members of the family, socioeconomic status any other associated diseases and treatment history. A thorough meticulous clinical examination was then carried out for skin lesions on the body. Genital examination was carried out for pigmentary changes, ulcers, scars and vaginal discharge. In all cases, routine investigations like complete haemogram, urine examination were done. In STD cases, VDRL, Elisa for HIV were done wherever necessary.

For patients with white discharge, KOH mount, saline mount, Gram staining were done for candidiasis, trichomoniasis and bacteria. For doubtful candidiasis, culture was done on Sabouraud medium and confirmed. LFT was carried out for patients with pruritus and icterus. Skin biopsy was done for certain dermatological conditions and sent for histopathological examination.

Inclusion Criteria

All pregnant women having skin lesions were included in the study irrespective of the duration of pregnancy and gravidity.

Exclusion Criteria

Pregnant women having any underlying medical diseases.

OBSERVATION AND RESULTS

Among these 200 patients, 84 patients were primies and 116 patients were multies. Out of the total number of 200 patients 113 belong to low socioeconomic status whereas 78 women belong to mid socioeconomic status and only 9 patients belong to high socioeconomic status.

The maximum no. of patients in this study belong to the age group of 21 to 30 years (53%) followed by the age group below 20 years (41.5%), the least number of patients belong to the age group.

Condition	Primies (84)	Multies (116)	Percentage of 20%		Percentage of 200
			Primies %	Multies %	Total %
Pigmentation					
Breast	76	116	90.4	100	96
Abdomen	60	100	71.4	86.2	80
Melasma	15	28	17.8	25.5	21.5
Striae					
Abdomen	75	115	89.2	99.18	92.5
Breast	42	96	50	82.7	69
Other Cutaneous Lesions	12	42	14.2	36.2	27
Skin Tags	2	6	23	5.1	4%
Vascular					
Palmar Erythema	16	4	19	3.4	10
Varicose Veins	1	3	1.1	2.7	2
Pedal Oedema	1	4	1.1	3.4	2.5
Gum Hypertrophy	3	1	3.5	0.8	2
Nail Brittleness	2	1	2.3	0.86	1.5

Table 1

	No. of Cases	% of 200
Pruritus Gravidarum	4	2
Prurigo Gestationis	3	1.5
Polymorphic Eruption of Pregnancy	2	1
Pruritic Folliculitis of Pregnancy	1	0.5
Autoimmune Progesterone Dermatitis	1	0.5

Table 2

Physiological Changes of Skin

We have examined all the patients under study for skin changes, which are physiological during pregnancy such as pigmentary and vascular changes apart from other cutaneous changes.

Pigmentation of the skin was the commonest change observed in 96% of the cases. Pigmentation of the areola of the breast was the most common pigmentary change among primies and multies.

Linea nigra was the second common among pigmentary changes. Melasma was observed to be more among multipara than primies.

Striae were observed in 99.1% of multipara women on abdomen where as they were observed in 89.2%. Palmar erythema was observed in 19% of primies, whereas it was present only in 3.4% of multipara.

Specific Dermatoses of Pregnancy

Specific dermatoses of pregnancy were found in 11 out of 200 patients (5.5%). In our study, they were equally distributed among primies and multiparous women. Pruritus gravidarum is the most frequent dermatosis occurring 4 out of 11 patients (36.36%) having pregnancy specific dermatoses out of 200 (2%) pregnant women. Two patients of pruritus gravidarum had icterus with raised LFT and increased alkaline phosphatase. Prurigo gestationis was observed in 3 out of 11 patients (27.2%) and out of 200 patients (1.5%). Polymorphic eruption of pregnancy was observed in 2 out of 11 patients (18.8%) and out of 200 (1%) and both these patients were primigravidas.

Coincidental Dermatological Disorder

Among 200 patients examined 42 diseases were diagnosed with respect to Dermatology, Leprology and Venereology in 134 patients. The commonest disease observed in the study was scabies (12.5%). A total number of 25 patients complained of white discharge per vagina.

The predominant cause of white discharge per vagina was candidiasis 12.5% while trichomoniasis accounted for 3%. Out of 14 patients presented with sexually transmitted diseases, 4 patients (2%) had condylomata acuminata, 4 patients had herpes progenitalis (2%), 3 patients had

molluscum contagiosum (1.5%), 2 patients had genital warts (1%) and secondary syphilis one patient (0.5%).

DISCUSSION

In our study, 14 out of 200 had specific dermatoses of pregnancy of which the pruritus gravidarum was the commonest followed by prurigo gestationis. Cutaneous changes and eruptions during pregnancy were exceedingly common and in some cases a cause of substantial anxiety on the part of the prospective mother. These alterations may range from physiological changes to common skin diseases that are not associated or coincidentally associated with pregnancy to eruptions that appear to be specifically associated with pregnancy. Likewise, the concerns of the patient may range from cosmetic appearance to the chance of recurrence of the particular problem in a subsequent pregnancy.

Age

In the present study, maximum number of patients were observed in the age group 21-30 years (53%), closely followed by the age group below 20 years. The number of patients in the 31-40 years group constituted only 5.5%. The youngest patient was 16 years old and the oldest patient was 38 years old.

Trimester

Maximum number of patients examined (58%) were in the 3rd trimester, those in the 2nd trimester accounted for 31.5% and the 1st trimester 10.5%. This observation maybe due to the fact that most women take pregnancy seriously only after 2nd trimester and attend to the antenatal clinics. Raj et al (1992)⁵ have observed an incidence of 75.4% of patients belonging to the last trimester, which confirms well with the present study.

Gravidity

The incidence of multigravidae (58%) was more in the study when compared to the primigravidae, which group was accounted for 42%. Multigravidae may be prone to more profound physiological changes like striae and pigmentation due to the sequelae of irreversible and partly reversible changes of previous pregnancies. The number of incidental skin diseases were high in primigravida.

Duration of Symptoms

The commonest symptom complained by the patients is pruritus (50%). This is due to the specific dermatoses of pregnancy and other incidental diseases like scabies, lichen planus and others. Pain was complained by 15% of patients due to E.M.F., gingivitis, aphthous ulcers, infective eczematoid dermatitis, etc. Discoloration is due to vitiligo and melasma. According to Winton et al (1982),^{1,2} pruritus from all causes may occur in 17% of pregnant women. Wong et al (1984)^{3,4} reported an incidence of 20%. Raj et al (1992)⁵ reported an incidence of 73.6%.

Physiological Changes in Pregnancy

One or more physiological changes of skin were observed in all the patients under this study. Pigmentation of the skin was the commonest physiological change observed in all multipara and 96% of primies. 98.2% of patients had pigmentation of external genitalia. Wong et al (1984) reported an incidence of 90% of pregnant women having hyperpigmentation. Similar incidence was reported by Dotz (1991), Winton (1982) and Aronson (1995). These incidences are consistent with the findings in the present study. Periareolar pigmentation was observed in 96%. Linea nigra is noted in 58.4% of cases. Melasma is noted in 21.5% cases in this study. This is in contrast to the observation made by Winton and Decins (1982) in a study based at U.S.A. where the incidence was 50%. Other Indian study by Raj et al⁵ (1992) is 8.8%. Striae were most commonly found on abdomen and more frequently in multipara than in primies.

Vascular Effects

Such as palmar erythema, varicose veins and pedal oedema were observed in 36 out of 200 patients (18%) of which palmar erythema was the most frequent. Similar observations were made by Raj et al⁵ in their study.

Specific Dermatoses of Pregnancy

1. Prurigo Gestationis

In this study, prurigo gestationis was 1.5%. Prurigo was noticed from 5th month of gestation to those in labour. This finding is consistent with the observation of Black et al⁶ (1991) where the onset was usually between 25 to 30 weeks of gestation. The disease was more severe in multigravidae. Majority of the patients showed lesions distributed on the extensor aspect of the limbs and less marked on the trunk as described by Black et al (1991).⁶

Winton et al^{1,2} (1982) reported an incidence of 2% of all pregnancies suffering from prurigo gestationis. Black et al⁶ quoted an incidence of prurigo gestationis 1 in 300 pregnancies.

2. Polymorphic Eruption of Pregnancy

An incidence of 1% P.E.P. was obtained in this study. Black et al⁶ (1991) described polymorphic eruption of pregnancy to be the most common of gestational dermatoses and reported an approximate incidence of 1 in 160 pregnancies. However, Dotz (1991) and Aronson (1995) reported an incidence between 1 in 120 to 1 in 240 pregnancies.

In the study of Raj et al⁵ (1992), polymorphic eruption of pregnancy accounted for 0.2%. In this study, all the affected patients were primigravidas with the gestational age ranging from 7th to 9 months. These findings coincide with the observation made by Black et al (1991), Dotz et al (1991) and Aronson et al (1995).

3. Pruritus Gravidarum:

The incidence of pruritus gravidarum was reported to be 0.02% to 2.4% worldwide (Dotz 1991)⁷. In the present study, an incidence of 2% was noted. All the patients were in the last trimester. LFT was normal in all except in 2

patients where there was slight increase in alkaline phosphatase.

4. Pruritic Folliculitis:

There was 1 case of pruritic folliculitis of pregnancy accounting for 0.5% of 200 cases.

5. Autoimmune Progesterone Dermatitis:

There was 1 case of autoimmune progesterone dermatitis accounting for 0.5% of specific dermatoses.

Dermatological Conditions

In the present study of 200 pregnant women, a total number of 42 different dermatological diseases were detected in 134 patients apart from specific dermatoses of pregnancy and sexually transmitted diseases. Scabies was recorded in 12.5% of cases and was the commonest dermatological condition recorded. Next, common disease is tinea versicolor accounting for 7.5%. This could be explained by the fact that majority of the patients in the study belonged to the low socioeconomic group scabies. No particular difference from general population was noted in incidence or severity. Marginal gingivitis accounted for 2% of the patients. Wong et al^{3,4} (1984) stated that the pregnancy gingivitis may occur in up to 100% of pregnant women with varying degrees of severity. According to Demis⁸ (1985) up to 80% of pregnant women may develop marginal gingivitis. The causative factor include local irritation, poor oral hygiene and nutritional deficiencies. Even though all the factors were operative in most of our patients as they belong to the low socioeconomic status, the incidence was not high.

Angular stomatitis with glossitis in 5% of patients reflects the high incidence of nutritional deficiency in low socioeconomic group in our study. Tinea cruris 2% and T. corporis in 1% of patients were observed. Furuncles accounted for 1% while folliculitis accounted for 0.5% of cases. Though, pregnancy is associated with an altered cell mediated immunity, high incidence was not noted. Though pregnant ladies are more prone to vasomotor instability and urticaria, the incidence in our study was only 1%. Vitiligo may start during pregnancy, exacerbate during pregnancy or remain stable. In this study, one case was noted (0.5%), which had the disease before pregnancy and there was no progress. One case of psoriasis was there among 200 patients examined (0.5%). There was some improvement in the disease process. Probably, this may be due to increased production of glucocorticosteroids during pregnancy. Herpes zoster, herpes simplex accounted for 2% each.

Varicella was seen in 1 case (0.5%). Varicella is rare in pregnancy as most women had it before they reach the child bearing age. Herpes zoster is also a rare event in pregnancy with occurrence of one case in this study. However, due to alteration in the immune status of the pregnant patient, occasional cases maybe expected. There were 13 recorded cases (Waterson 1979). Verruca vulgaris was seen in 2 cases (1%) of patients. Both these patients

had lesions before the onset of pregnancy and the lesions are uninfluenced by the pregnancy. Leprosy is known to exacerbate, relapse or exhibit reaction during pregnancy due to the alteration in the cell-mediated immunity (Dotz 1991; Aronson 1995). In our study, one case of B. T. Leprosy on treatment was recorded who incidentally became pregnant. No alteration in the disease status was noted during the period of study. Keloids may grow rapidly during pregnancy (Winton et al 1982) in our study. One case showed slight increase in the size. One case of gingival granuloma is noted accounting for 0.5%. An incidence of 2% was quoted by Winton et al^{1,2} (1982), Wong et al^{3,4} (1984), Dotz⁷ (1991). Eccrine sweating increased during pregnancy. So, there is increased incidence of hyperhidrosis and miliaria, 2 cases of hyperhidrosis (1%) and 2 cases of miliaria rubra were noted in our study.

Sexually Transmitted Diseases

In this study, total number of 14 patients were recorded accounting for 7%. Condylomata acuminata was the commonest STD observed in 4 patients accounting for 2%. Condylomata acuminata was also the commonest STD in the series of Raj et al⁵ (1992). The patients were noted in all trimesters. The growth in the later part of pregnancy were large and cauliflower like as is expected in pregnant women. Herpes progenitalis accounted for 2% of cases in this study. Crawford et al⁹ (1950) reported an incidence of 0.03%. However, Raj et al⁵ (1992) had an incidence of 0.1%.

Molluscum contagiosum was noted in 1.5% of cases. The incidence in the study of Raj et al⁵ (1992) was 2%. genital warts were noted in 2 patients (1%). Only one case of syphilis in secondary stage was noted accounting for 0.5%. In the study of Raj et al⁵ (1992), the incidence of syphilis was 0.9%.

White Discharge per Vagina

In the present study, candidiasis accounted for 12.5% of cases examined. Monilial vaginitis and vulvitis occurs 10 to 20 times more frequently in pregnancy according to Dotz et al⁷ (1991). This view also shared by Winton (1989). Pregnancy seems to predispose to monilial vaginitis as the altered hormonal status favours the infection (Dotz et al;⁷ 1991). Trichomonal vaginitis was 3% of the cases examined. Dotz⁷ (1991) states that trichomonal vaginitis and vulvitis are more prevalent among pregnant women than non-pregnant women. Winton^{1,2} (1989) quotes an incidence of 60% pregnant women suffering from trichomoniasis. Bacterial vaginosis is seen in 1.5% of cases. Miscellaneous cases like physiological leucorrhoea and others accounted for 2%.

CONCLUSIONS

1. A total number of 200 pregnant women were examined for dermatological changes.
2. Most of the patients belonged to the sexually active age group with the maximum number of patients

3. belonging to the age group between 21 to 30 years.
3. Large number of patients 113 (56.5%) belonged to the lower economic status while 39% cases constituted middle class patients only 4.5% to high socioeconomic group.
4. Most of the patients were multipara 116 (58%) and remaining were primies 84 cases (42%).
5. 3rd trimester attendance (58%) is commonest followed by 2nd trimester (31.5%) while those in the 1st trimester accounted for (10.5%).
6. Most of the patients belonged to urban areas. 61%, while rural patients numbered 39%.
7. Most of the patients were housewives 60%.
8. Majority of the patients had symptoms for 2-4 weeks to months.
9. Pruritus was the most common symptom 50% while the pain accounted for 15%.
10. Pigmentation of the skin was the commonest physiological change seen more in all multipara women and 93% of primies. External genitalia were pigmented in almost all cases 98.82%.
11. Abdomen was the commonest site for striae.
12. Palmar erythema, varicose veins, pedal oedema were observed in (9%) 18 out of 200 cases.
13. Infections and infestations constituted a major part of the dermatoses (36.5%) commonest dermatological disorder is scabies (12.5%).
14. In our study, 14 out of 200 had specific dermatoses of pregnancy of which the pruritus gravidarum was the commonest followed by prurigo gestationis.
15. Vaginal discharge was observed in 38 out of 200 patients. The predominant cause for white discharge is candidiasis.
16. Pregnant females are susceptible for both to the general dermatological diseases and to the disorders specific to pregnancy.
17. This study emphasises the need for a scrupulous and meticulous search for dermatological and sexually transmitted disease instead of routine regular antenatal checkups and dismissing the patients with symptoms attributing them to the normal course of pregnancy.

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