ORIGINAL RESEARCH PAPER

Dermatology

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STUDY OF PREVALENCE OF SKIN MANIFESTATIONS IN PREGNANT WOMEN IN TERTIARY CARE HOSPITAL.

Dr Saoji Virendra V MBBS, MD., Associate professor, Department of dermatology, Dr Panjabrao Deshmukh memorial medical college, Amravati, Maharashtra

Dr Telhure Bhushan J* MBBS, MD., Junior Resident, Department of dermatology, Dr Panjabrao Deshmukh memorial medical college, Amravati, Maharashtra *Corresponding Author

ABSTRACT

Background: During pregnancy profound changes occur, which make the pregnant woman susceptible to various dermatoses. These dermatoses are associated with concerns ranging from those related to cosmetic appearance to its potential effects on the fetus. The purpose of the study was to know the varied dermatoses encountered in pregnancy.

Materials and methods: A total of 180 pregnant women with skin manifestations were included in the study. A detailed history with complete cutaneous examination of the skin lesions was done. Every patient was examined once in each trimester for three trimesters. Data was summarized using mean, standard deviation, minimum and maximum in quantitative data. Chi square test was applied wherever applicable.

Results: Out of the 180 patients selected, the minimum age was 19 years, maximum age was 32 years and mean was 25.04. Maximum patients were gravida 2 (40%). Majority of patients were found to be present in the 3rd trimester (46.11%). The association of trimester of pregnancy and cutaneous manifestation was found to be significant as p value was less than 0.05. Striae were the most common physiological changes and fungal infections were the most common pathological disease encountered in our study.

Conclusion: The cutaneous manifestations in pregnancy consist of broad spectrum of diseases. It is therefore important on the part of the physician to timely diagnose these various cutaneous lesions. Most of the times the mother is worried about the pregnancy outcome and hence having an overall perspective is necessary for the right diagnosis and counselling of the patient.

INTRODUCTION

During pregnancy, profound immunologic, metabolic, endocrine and vascular changes occur, which make the pregnant woman susceptible to changes of the skin and appendages, both physiologic and pathologic[1]. The skin changes in pregnancy can be either physiological, changes in pre-existing skin diseases or development of new pregnancy specific dermatoses. The concerns of the patients may range from cosmetic appearance to varied symptoms including the potential effects on the fetus in terms of morbidity and mortality. Dermatoses in pregnancy are distressing for both the physician and the patient. The article aimed at studying the prevalence of the various dermatoses encountered in pregnant women.

MATERIAL AND METHODS

A prospective observational study was conducted over a period of 18 months after obtaining ethical clearance from institutional ethics committee. A total of 180 pregnant women with skin manifestations were included in the study irrespective of age, parity and socioeconomic status. All pregnant women attending ANC OPD in our institute with skin problems either pre-existing or recently developed and willing to complete the study were included. Patients not willing to give written and informed consent and not willing to complete the study were excluded. A detailed history with chief complaints related to skin, onset, progression, associated constitutional symptoms, sites involved, and presence of similar problems during previous pregnancies, presence of disease in other family members, socio-economic status were taken in consideration. A complete cutaneous examination of the skin lesions, morphology, distribution and sites involved was carried out. Every patient was examined once in each trimester for three trimesters. Data was coded and entered using the Statistical Package for the Social Sciences (SPSS) software version 23. Chi square test was applied wherever applicable.

RESULTS

Out of the 180 patients selected, the minimum age was 19 years, maximum age was 32 years and mean was 25.04 years with standard deviation of 3.15. Table 1 summarizes distribution of patients according to age groups.

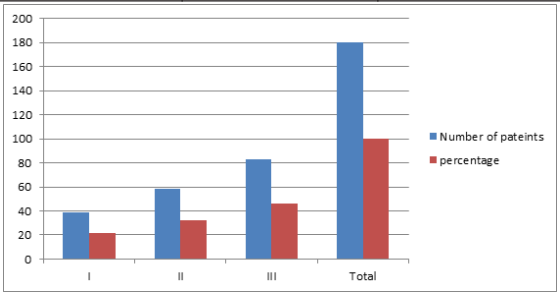
Table 1: Distribution of patients according to age groups

Age Groups	Number of patients	Percentage
18-24 years	80	44.44
25-30 years	93	51.67
More than 30 years	07	3.89

Out of the 180 patients, 57(31.67%) patients were gravid 1, 72(40%) patients were gravida 2, 50(27.78%) patients were gravid 3 and 1 patient (0.55%) was gravida 4. Table 2 demonstrates the distribution of patents according to the trimester. It shows maximum number of patients belonged to the 3rd trimester.

Table 2: Number of patients according to trimester

Trimester	Number of patients	percentage
I	39	21.67
II	58	32.22
III	83	46.11
Total	180	100



Graph 1: Distribution of number of patients according to trimester

X^2=24.35: df = 2, p value= <0.05

Table 2 shows the cutaneous manifestation in pregnancy accoding to trimester. Out of the total, majority were found to

be present in the 3rd trimester (46.11%) followed by 2nd trimester (32.22%). The association of trimester of pregnancy and cutaneous manifestation is found to be significant as p value is less than 0.05.

According to the gravid distribution, 40 % (72) patients belonged to gravida 2 and 31.67% (57) patients belonged to gravida 1 and 27.78% (50) patients belonged to gravida 3.

Table 3 shows the various physiological changes appreciated in pregnancy and table 4 shows various pathological diseases encountered in pregnancy. Striae (Figure 1) were the most common physiological changes observed and fungal infections (Figure 2) were the most common pathological disease encountered in our study.

Table 3: Distribution of physiological changes in pregnancy

Physiological Changes	Number of patients	percentage
Linea nigra	93	51.67
Striae distensae	122	67.78
Melasma	56	31.11
Secondary areola	27	15
Hair loss	23	12.78
Acanthosis Nigricans	7	3.89

Table 4: Distribution of pathological diseases of pregnant females

Type of Dermatological Disease	Number of patients	percentage
Acne Vulgaris	35	19.44
Eczema	6	3.33
Bacterial Infections	5	2.77
Viral Infections (Molluscum contagiosum and viral wart)	34	18.88
Fungal Infections	59	32.77
Contact Dermatitis	14	7.78
Psoriasis	3	1.6
Scabies	4	2.2
PMLE	4	2.22
Dermatitis Neglecta	1	0.55
Milaria Rubra	3	1.66
Allergic contact dermatitis	5	2.77
Urticaria	7	3.88

Table 5: Distribution of pregnancy specific dermatoses of pregnant females

Type of pregnancy specific dermatoses	Number of patients	percentage
Atopic erpution of pregnancy (AEP) (Prurigo of Pregnancy)	11	6.11
Polymorphic eruption of pregnancy (PEP)	19	10.55
Pemphigoid gestations (PG)/ Herpes gestationis	0	0.0
Intrahepatic Cholestasis Pregnancy (ICP)	0	0.0

Table 6 depicts trimester wise distribution of pathological diseases and table 7 depicts trimester wise distribution of physiological changes.

Table 6: Trimester wise disease distribution of pregnant females

Type of Dermatological Disease	Trimester			
	I	II	III	Total
Acne Vulgaris	6	14	15	35
Eczema	2	0	4	6
Bacterial Infections	1	0	4	5
Viral Infections (Molluscum contagiosum and viral wart)	4	13	17	34
Fungal Infections	13	25	21	59
Contact Dermatitis	3	4	7	14
Psoriasis	0	1	2	3
Scabies	0	3	1	4
PMLE	1	1	2	4
Dermatitis Neglecta	0	0	1	1
Milaria Rubra	0	3	0	3
Allergic contact dermatitis	1	1	3	5
Urticaria	3	1	3	7

Table 7: Trimester wise distribution of physiological changes in pregnancy

Physiological Changes	Trimester			
	I	II	III	Total
Linea nigra	22	39	32	93
Striae distensae	22	34	66	122
Melasma	27	20	9	56
Secondary areola	11	12	4	27
Hair loss	4	6	13	23
Acanthosis Nigricans	1	3	3	7

It was well appreciated that, there various dermatoses encountered in pregnancy, over the period of time with change in trimester also changed. This however was associated with relief and aggrevation of diseases. Table 8 demonstrates the various dermatoses which underwent worsening as the trimester progressed.

Table 8: Course of disease along the trimester

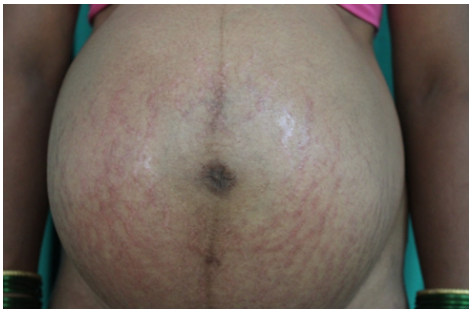


Figure 1: Striae gravidarum with linea nigra: Gravida 3, 3rd trimester patient

Diseases	No. of patients	No. of new patients	No. of patients with pre-existing dermatoses	No. of patients with worsening conditions
Acne Vulgaris	35	25	10	6
Eczema	6	5	1	3
Viral Infections (Molluscum contagiosum and viral wart)	34	12	22	3
Fungal Infections	59	37	22	31
Contact Dermatitis	14	4	10	3
Psoriasis	3	1	2	1
Scabies	4	4	0	0
PMLE	4	4	0	0
Urticaria	7	3	4	2
Melasma	56	35	21	43
Striae Distensae	122	72	50	69
Atopic eruption of pregnancy	11	11	-	6
Polymorphic eruption of pregnancy	19	19	-	11

Figure 2: Tinea Facies: Gravida 1, trimester 2 patient

Figure 3: Impetigo Herpetiformis: 3rd trimester, gravida 3

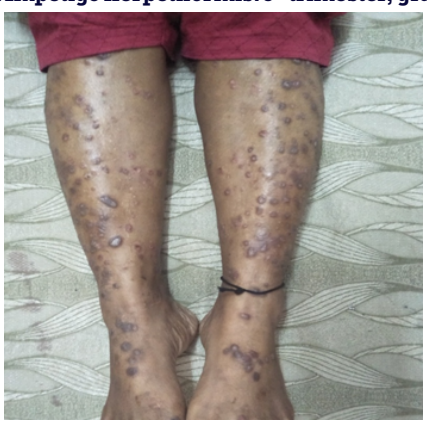


Figure 4: Prurigo of pregnancy: 1st trimester, gravida 2 patient

DISCUSSION

In our study minimum age was 19 years and maximum age was 32 years.

Similar study done by Raj et al [2] had an age group of 16-30 years. In our study, 46.11% women belonged to 3rd trimester. In study done by Shivakumar et al[3] third trimester attendance accounted for 105 cases (61.76%). In the present study maximum (40%) women were in gravida two, hence, majority of the cases were multigravida. In kumari et al [4] study, out of 607 patients 304 (51.1%) were multi gravida.

Total 180 subjects were enrolled in our study. Out of the 180 subjects, the most common physiological change in pregnancy was striae distance (67.78%) which was most commonly seen in 3rd trimester; followed by linea nigra (51.67%) most commonly seen in the 2nd trimester and followed by melasma (31.11%) which was maximally seen in 1st trimester. In a study by Raj et al[2] striae gravidarum were found in 75 percent. In a study done by R Shivanand et al [5], linea nigra was found in 270 cases (45%) which support our study. Muzaffer et al [6] found melasma to be present in 65 cases (46.4%) of their cases, which is closer to what is seen in our study.

In our study, most commonly found pathological disease was fungal infections (32.77%). 2nd most common was acne (19.44%) followed by viral infections (18.88%)

In our study fungal infection was most common and it correlates with study done by R. Shivanand et al[5].

Specific dermatoses of pregnancy are most important entity of this spectrum of cutaneous manifestations of pregnancy.

Most Recent classification proposed by Ambros Rudolp[7] in 2006, is elaborated as

i) With Rash:

Early dermatoses –

Atopic eruption of pregnancy

Late dermatoses –

Polymorphic eruptions of pregnancy.

Pemphigoid gestationis

ii) Without Rash: Intra-hepatic cholestasis of pregnancy

Most common specific dermatosis in pregnancy which was found was polymorphic eruption of pregnancy followed by atopic eruption of pregnancy. The percentage distribution was 10.55 and 6.11 respectively. Atopic eruption of pregnancy was seen more in 1st trimester and polymorphic eruption of pregnancy was more commonly seen in last trimester trimester. In a study done by Shivanand et al [5], polymorphic eruption of pregnancy was the commonest specific dermatosis with 19 patients (10.55%), followed by Atopic eruption of pregnancy (AEP) with 11 patients (6.11%)

In our study we had a single case of impetigo herpetiformis. The condition worsened as pregnancy proceeded. Following delivery, there was complete resolution without any sequel in next 3 months. Neonatal outcome was good.

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