

Pregnancy specific dermatoses presenting in a tertiary care hospital of Peshawar

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ABSTRACT

Introduction: Pregnancy can produce appendageal and cutaneous alterations, leading to three types of skin manifestations. These include benign skin conditions due to normal physiological changes, flare up of pre-existing skin conditions, and the specific dermatoses of pregnancy.

Objective: To determine the dermatoses specific to pregnancy among women visiting a tertiary care hospital of Peshawar, Khyber Pakhtunkhwa, Pakistan.

Materials & Methods: This descriptive study was conducted in the Department of Dermatology and Department of Obstetrics & Gynecology at Hayatabad Medical Complex, MTI, Peshawar from September 20, 2019, to March 20, 2020. All pregnant women presenting in any trimester of pregnancy of ages 15 to 45 years, any gravidity or parity were included through consecutive non-probability sampling technique. Women diagnosed previously with connective tissue disease, immunobullous disease, diabetes mellitus, pre-existing liver, renal or any other cutaneous or systemic disease were excluded from the study. Sample size of 141 was calculated using OpenEpi sample size calculator Data were analyzed by SPSS 23 for descriptive statistics.

Results: A total of the mean age of subjects was 28.5 ± 4.8 years; 72.3% of the patients were multigravida. The mean period of gestation was 19.9 ± 7.9 weeks and most patients (41.1%) presented in the 2nd trimester. Specific dermatoses of pregnancy were found in 12.7% of patients. Polymorphic Eruption of Pregnancy was recorded in 5.7%, Atopic Eruption of Pregnancy was recorded in 4.9%, which included eczema of pregnancy in 2.1%, Prurigo Gestationis in 2.1%, and Pruritic Folliculitis in 0.7%. The least common dermatoses of pregnancy were Pemphigoid Gestationis and Intrahepatic Cholestasis of Pregnancy which were present in 1.4% and 0.7% of patients respectively.

Conclusion: Specific dermatoses of pregnancy are fairly common, with Polymorphic Eruption of Pregnancy and Atopic Eruption of Pregnancy being more prevalent.

Keywords: Pregnancy; Skin Diseases; Skin Diseases, Eczematous; Dermatitis; Prurigo; Pemphigus; Folliculitis.

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INTRODUCTION

Pregnancy is associated with multiple hormonal, metabolic and immunological changes which result in appendageal and cutaneous alterations, leading to three types of skin conditions during pregnancy. First, the benign skin conditions occurring due to normal physiological changes; second, pregnancy may cause flare of pre-existing skin conditions; third, the specific dermatoses of pregnancy, which includes all those cutaneous conditions that are induced by pregnancy.¹

Pregnancy-specific dermatoses represent a group of pruritic skin diseases unique to pregnancy.² The latest classification of specific dermatosis of pregnancy includes Pemphigoid Gestationis (PG), Polymorphic Eruption of Pregnancy (PEP), Intrahepatic Cholestasis of Pregnancy (ICP), and Atopic Eruption of Pregnancy (AEP).³ Among the specific dermatosis, Intrahepatic Cholestasis of Pregnancy and Pemphigoid Gestationis are associated with poor prognosis.⁴ Specific dermatoses of pregnancy usually occur in 2nd and 3rd trimester of pregnancy, but in small number of cases can present in the post-partum period.⁵ The maximum number of pregnant women that are affected by specific dermatosis of pregnancy are in the age range of 21-30 years (42.55%).⁶ These pregnancy associated specific dermatoses are rare, but may cause significant distress and harm to both the mother and fetus. Therefore, early diagnosis, prompt treatment, and close obstetric surveillance are mandatory in these cases.⁷

In one local study, conducted in department of dermatology, Civil hospital, Karachi, prurigo of pregnancy (96%) was the most common dermatosis seen during pregnancy followed by pruritic folliculitis of pregnancy (2%), herpes gestationis (1%) and polymorphic eruption of pregnancy (1%). The mean age of presentation was 32 ± 6.8 years.⁸ In another local study, 48.8% women had pruritic urticarial papules and Plaques of Pregnancy (PEP), followed by pruritic folliculitis of pregnancy in 25.6%, pruritus gravidarum (ICP) in 18.6%, prurigo gestationis in 4.7%.⁹

In one foreign study, conducted in BP Koirala Institute of Health Sciences, Dharan, Nepal, specific dermatosis of pregnancy were very common (41.33%) among which prurigo of pregnancy (prurigo gestationis) was the commonest dermatosis (24%).¹⁰

The present study was designed to determine the frequency and types of specific dermatoses in pregnancy. As mentioned above, pregnancy induced dermatoses, if remain undiagnosed and not reported, can lead to potential harm to both mother and fetus. Moreover, it is also mentioned in literature that the burden of specific dermatoses varies from one population to another. This study will give us local evidence of magnitude of specific dermatoses in pregnant women. The results of this study will be shared with local health professionals to make them aware about the gravity of the problem and develop future research and clinical recommendations to prevent the enhancing burden of dermatoses in pregnancy.

MATERIALS & METHODS

This descriptive study was conducted in the Department of Dermatology and Department of Obstetrics & Gynecology at Hayatabad Medical Complex, MTI, Peshawar. The duration of the study was six months from September 20, 2019, to March 20, 2020. All pregnant women presenting in any trimester of pregnancy, age 15 to 45 years, any gravidity or parity were included through consecutive non-probability sampling technique. All those women who were already diagnosed previously with connective tissue disease, immuno-bullous disease, diabetes mellitus, pre-existing liver, renal or any other cutaneous or systemic disease were excluded from the study. Sample size was calculated using OpenEpi sample size calculator keeping 4.7% proportion of Prurigo gestationis in pregnant women⁹, 95% confidence level and 3.5% margin of error. The calculated sample size was 141.

All patients meeting the inclusion criteria was included in the study. The purpose and benefits of the study was explained to all patients and a written informed consent was obtained. All patients were worked up with detailed history and clinical examination. Thorough dermatological examination was done in all women to detect specific dermatoses of pregnancy like PEP, AEP, ICP and PG. All the examinations were conducted under supervision of single expert dermatologist having minimum of 5 years of experience. All the above-mentioned information including name, age and address was recorded in a pre-designed proforma. Exclusion criteria were strictly followed to control confounders and bias in the study results.

The data were analyzed in SPSS version 23. Frequencies and percentages were calculated for categorical variables like specific dermatoses (PEP, AEP, ICP, PG). Mean and standard deviation were calculated for continuous variables like age, gravidity and parity.

RESULTS

The mean age of 141 women was 28.5 ± 4.8 years. Patients were distributed in three different age groups. Majority of the pregnant patients were in the age group of 26-30 years (Table 1).

Table 1: Age-wise distribution of patients (N=141).

Age Groups	Frequency	Percentage
20-25 years	33	23.4
>25-30 years	55	39.0
>30-35 years	53	37.6
Total	141	100.0

There were more multigravida (72.3%) patients compared to primigravida (27.7%) (Table 2).

Table 2: Distribution of gravidity of patients (N = 141).

Gravidity	Frequency	Percentage
Primigravida	39	27.7
Multigravida	102	72.3
Total	141	100.0

The mean period of gestation was 19.9 ± 7.9 weeks and most of the patients (41.1%) presented in their 2nd trimester (Table 3).

Table 3: Trimester of pregnancy at presentation (n = 141).

Trimester	Frequency	Percentage
1 st Trimester	35	24.8
2 nd Trimester	58	41.1
3 rd Trimester	48	34.0
Total	141	100.0

The overall prevalence of specific dermatoses of pregnancy was 12.7% (Table 4). Polymorphic eruption of pregnancy was the most common specific dermatosis of pregnancy, recorded in 5.7% of the patients, followed by Atopic eruption of pregnancy, recorded in 4.9% of the patients. The least common specific dermatosis was Intrahepatic cholestasis of pregnancy, recorded in only 1(0.7%) patient.

Table 4: Specific dermatoses of pregnancy (n = 141).

Specific Dermatoses of Pregnancy		Frequency	Percentage
Polymorphic eruption of pregnancy		08	5.7
Pemphigoid gestationis		02	1.4
Intrahepatic cholestasis of pregnancy		01	0.7
Atopic Eruption of pregnancy	Eczema of pregnancy	03	2.1
	Prurigo of pregnancy	03	2.1
	Pruritic folliculitis of pregnancy	01	0.7
Total Present		18	12.7
Total Absent		123	87.3

DISCUSSION

Pregnancy is associated with significant cutaneous changes, which may range from physiological changes of skin to common skin diseases occurring coincidentally with pregnancy, to eruptions seen only during pregnancy or postpartum period. Complex endocrinological, immunological, metabolic and vascular changes associated with pregnancy influence the skin in various ways.³ Pregnancy specific dermatoses represents a specific group of pruritic skin conditions unique to pregnancy. This study is the first study to be conducted in local setting. In this study specific dermatoses of pregnancy were studied in relation to age, gravidity, trimester and type of pregnancy.

In this study majority of the patients were in the age group 26-30 years (mean age 28.5 ± 4.8 years). In a study conducted by Chopra et al, the mean age of pregnant patients presenting with certain cutaneous manifestations was 24.2 years.¹¹ The reason for lower mean age in their study could be because of larger number of primigravida patients which tend to be of younger age compared with the multigravida patients in contrast to this study.

Majority of the patients in our study were multigravida (72.3%). In a study conducted by Hassan et al, similar trend was observed where majority of the patients presenting with certain cutaneous lesions were multigravida.¹² Similarly Niaz et al also found majority of the pregnant patients presenting with skin lesions to be multigravida.⁸ The similarity could be due to similar sampling technique which was consecutive non-probability sampling in our study as well as in the referred studies.

In our study, most of the patients presented to us in 2nd trimester of pregnancy, constituting 41.1% of the included patients. In a study conducted by Panicker et al, similar trend was observed where most of the patients examined were also in the 2nd trimester of pregnancy.¹ This similarity could also be due to similar sampling technique which was consecutive non-probability sampling in our study as well as in the referred study.

The overall prevalence of specific dermatoses in this study was 12.7%. The prevalence of specific dermatoses in literature is reported to be between 2% to 14%.^{1,13,14,15} The reason for the difference in the reported prevalence of specific dermatoses of pregnancy in different studies could be due to a number of factors such as different research settings, demographics, education level of subjects, and access to health care facilities. In a study conducted in India by Kannambal et al,¹⁵ the prevalence of specific dermatoses of pregnancy was reported to be 14%, which is similar to the results of our study because of similarity in demographics and genetic characteristics.

The most common dermatosis in this study was polymorphic eruption of pregnancy, present in 5.7% of the patients. Puri et al reported PEP in 22% of cases.¹⁶ The reason for lower prevalence in this study could be because of lack of awareness in our society where pregnant patients do not visit the hospital for antenatal check-up as frequently as advised and due to conservative nature of our society, where females can sometimes shy away from revealing problems relating to their skin.

Atopic eruption of pregnancy was the second most common dermatosis, present in 4.9% of the patients. AEP included eczema of pregnancy, which was present in 2.1%, prurigo of pregnancy, present in 2.1%, and pruritic folliculitis, present in 0.7% of the patients. In a study conducted in India by Kothamasu et al,⁴ an almost similar overall prevalence of atopic eruption of pregnancy in their study was observed which was 5.4% (19/350). This included eczema of pregnancy 3.4% (12/350), prurigo of pregnancy 1.4% (7/350) and pruritic folliculitis 0.58% (2/350). The reason for similarity could be because both the studies are conducted in the same region i.e. South Asia, which has similar demographics, literacy level, and access to health care facilities.

The least common dermatosis was Intrahepatic Cholestasis of Pregnancy, present in 0.7% (1/350) of the patients. Kothamasu et al observed a prevalence of 0.57% (2/350)⁴ while Fernandes LB et al., reported 1.65% (18/905)¹⁴ of cases of ICP, consistent with our results. The reason for low incidence can be due to occurrence of ICP in genetically predisposed individuals who have a very low prevalence in the population.

CONCLUSION

Specific dermatoses of pregnancy are quite common in our population, among them PEP and AEP were most prevalent. Therefore, a detailed history and awareness of clinical presentation facilitate the confirmation of the diagnosis and will direct the most appropriate laboratory evaluation in an effort to minimize maternal and fetal morbidity.

RECOMMENDATIONS

- Every pregnant patient complaining of pruritus should be meticulously examined in search for specific dermatoses of pregnancy, instead of a casual cursory examination and dismissing the patients with symptoms attributing them to the normal course of pregnancy.
- More studies should be conducted on larger sample sizes and involving multicenter settings to draw conclusions about its exact burden, diagnostic strategies, follow up, maternal and fetal outcomes to draw future research and preventive recommendations.

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