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A CROSS-SECTIONAL STUDY OF CUTANEOUS MANIFESTATIONS IN PREGNANCY

Dermatology

Dr. M. Divya Chaitanya Postgraduate, Department of Dermatology, Venereology and Leprosy, Sri Siddhartha Medical College, Tumkur

Dr. Shivanand D.R Professor & HOD, Department of Dermatology, Venereology and Leprosy, Sri Siddhartha Medical College, Tumkur

Dr. M. Divya Chaitanya* Postgraduate, Department of Dermatology, Venereology and Leprosy, Sri Siddhartha Medical College, Tumkur*Corresponding Author

ABSTRACT

Background: Pregnancy induces hormonal, immunological, and vascular changes that significantly affect the skin. These manifestations range from physiological alterations to specific dermatoses and infections, some of which may have clinical implications.**Objective:** To evaluate the prevalence and spectrum of cutaneous manifestations in pregnant women.**Methods:** A cross-sectional observational study was conducted among 110 pregnant women attending dermatology and obstetrics outpatient departments of a tertiary care hospital over 24 months. Clinical evaluation and relevant investigations were performed. Data were analyzed using SPSS v22.**Results:** Physiological changes were observed in 70.9% of participants. Striae distensae (14.5%) and chloasma (7.3%) were the most common findings. Infective dermatoses were predominantly fungal (90.7%), with genital candidiasis and tinea cruris being frequent. Pregnancy-specific dermatoses included prurigo nodularis (6.4%), atopic eruption (5.5%), and polymorphic eruption (4.5%). Hair and nail changes were seen in 44.5% and 19.1% respectively.**Conclusion:** Cutaneous manifestations in pregnancy are highly prevalent and predominantly physiological. However, infections and specific dermatoses contribute to morbidity. Routine dermatological screening should be incorporated into antenatal care.

KEYWORDS

Pregnancy; Dermatoses; Striae Gravidarum; Melasma; Puppp; Fungal Infections

INTRODUCTION

Pregnancy is a dynamic physiological state associated with complex endocrine, metabolic, and immunological alterations, which significantly influence the skin [1]. These systemic changes result in a wide range of dermatological manifestations.

Cutaneous findings during pregnancy may be broadly classified into physiological changes, pregnancy-specific dermatoses, and infections [2]. The majority of pregnant women experience some form of skin change, most of which are benign and self-limiting.Common physiological changes include hyperpigmentation, striae gravidarum, and vascular alterations. In contrast, pregnancy-specific dermatoses such as polymorphic eruption of pregnancy and pemphigoid gestationis may require closer monitoring due to possible maternal and fetal implications [3].

Despite the high prevalence, limited region-specific data exist, particularly in the Indian population, necessitating further studies [1,4] Rathore et al. [1] conducted a prospective study among 500 pregnant women in India to assess physiological skin changes. Hyperpigmentation (91.6%) and striae gravidarum (79.8%) were the most common findings, followed by vascular changes such as spider angiomas and varicosities. These changes were more evident in multigravidas and later stages of pregnancy, largely due to hormonal influences. The study also noted that hyperpigmentation was more pronounced in darker skin types and emphasized the importance of counseling to reassure patients.

MATERIALS AND METHODS

This cross-sectional observational study was conducted in a tertiary care teaching hospital over a period of 24 months.

Pregnant women aged 18 years and above presenting with dermatological manifestations were included. A total of 110 participants were enrolled in the study.

Detailed history including demographic and obstetric data was recorded. Clinical examination of the skin, hair, and nails was performed in all participants.

Relevant investigations such as complete blood counts, liver and renal function tests, KOH mount, Tzanck smear, and histopathological examination were carried out wherever indicated

The data obtained were analyzed using SPSS version 22. Statistical significance was set at $p < 0.05$.

RESULTS

A total of 110 pregnant women were included in the study conducted between October 2023 and September 2025. The majority of participants were aged 26–30 years (39.1%), followed by 31–35 years (27.3%), reflecting the peak reproductive age group. Most women were multigravida, with a fairly even distribution across parity levels.

Common Dermatological Conditions in Pregnancy

The most frequent presenting complaints were pigmentation (25.0%) and hair fall (22.9%), followed by nail changes and rashes (18.8% each), and pruritus (14.6%). Cutaneous involvement was commonly generalized, with multiple areas affected in 26.4% of cases. Pruritus (50.0%) and xerosis (45.5%) were highly prevalent symptoms.

Among dermatoses, **striae distensae (14.5%),** acne with post-inflammatory hyperpigmentation (9.1%), candidiasis (8.2%), and tinea infections (8.2%) were common. Less frequent conditions included atopic eruption of pregnancy (5.5%), prurigo nodularis (6.4%), and polymorphic eruption (4.5%). Rare conditions such as pemphigoid gestationis and herpes infections were also observed.

Hair changes were present in 44.5% of women, predominantly hair loss (65.3%), while nail changes were less frequent, with onychomycosis being the most common (61.9%).

Frequency of Physiological Cutaneous Changes

Physiological skin changes were observed in **70.9%** of participants, making them the most common dermatological finding. These included hyperpigmentation, striae gravidarum, vascular changes, and oedema.

The occurrence of physiological changes was **uniform across age groups, gravida, and trimesters**, with no statistically significant association ($p > 0.05$). However, pruritus showed a significant association with physiological changes ($p = 0.031$), indicating that even normal pregnancy-related changes may contribute to symptoms.

Frequency of Specific Dermatoses of Pregnancy

Specific dermatoses were observed in **50% of participants**, with atopic eruption of pregnancy being the most common. The distribution of these dermatoses varied significantly across trimesters ($p = 0.001$), suggesting a gestational influence on their occurrence.

Polymorphic eruption and pruritic conditions were more frequently noted in later trimesters, consistent with mechanical and hormonal factors.

Frequency of Infective Cutaneous Diseases

Cutaneous infections were present in **39.1%** of cases. Among these, **fungal infections predominated (90.7%),** while viral infections were relatively uncommon (9.3%).

Fungal infections commonly involved multiple body sites and limbs, with a statistically significant association between infection type and site of involvement ($p = 0.007$). Infection patterns also showed significant variation across trimesters ($p = 0.042$), but no significant association was found with diabetes status or parity ($p > 0.05$).

DISCUSSION

The present study confirms that cutaneous manifestations are highly prevalent during pregnancy, with physiological changes forming the majority, similar to findings reported in earlier studies [1,4].

Hormonal influences, particularly increased estrogen and melanocyte-stimulating hormone, play a key role in the development of pigmentation and connective tissue changes [2].

The high prevalence of fungal infections may be explained by altered immune responses and increased skin moisture during pregnancy [5]. Pregnancy-specific dermatoses, though less common, are clinically significant and require prompt recognition and management to prevent complications [3].

Hair and nail changes, although often overlooked, were observed in a considerable proportion of participants, highlighting the need for comprehensive dermatological assessment.

CONCLUSION

Cutaneous manifestations during pregnancy are highly prevalent, with physiological changes being the most common. However, infections and pregnancy-specific dermatoses also contribute significantly to the overall clinical spectrum.

Early diagnosis and appropriate management can improve maternal well-being. Routine dermatological evaluation should be incorporated into antenatal care.

CONFLICT OF INTEREST: Nil

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