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Pattern of Pregnancy Dermatoses among Antenatal Mothers in Government Vellore Medical College

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Abstract

Introduction: *Pregnancy dermatoses include skin changes due to physiological phenomenon, pregnancy specific disease conditions and preexisting skin conditions. The pregnancy dermatoses can be due to alterations in hormonal, metabolic, vascular or immunologic mechanisms during pregnancy. Assessment of dermatological conditions during pregnancy gains much importance because some have implications on the maternal and fetal outcomes. We describe the pattern of skin changes among antenatal mothers attending Government Vellore Medical College for pregnancy care from March 2017 to June 2017.*

Materials and Methods: *We conducted a cross sectional study at the antenatal clinic in Government Vellore Medical College. between March 2017 and June 2017 among 403 mothers . We analysed the data using Epi Info Software.*

Results: *Primi mothers and second gravida together was 85%. The mothers with age less than 20 years and above 30 were 11% and 16% respectively. The common physiologic changes such as Linea Nigra, secondary Areola and Melasma were seen in more than 70%. Pregnancy Specific Dermatoses was seen in 10%. Preexisting conditions were seen including nail changes in 6.4%.*

Discussion: *Pigmentary changes were the most common in our study, Linea Nigra being the most common. Similar findings have been observed in many studies. Pregnancy specific dermatoses were seen in 10 %. Prurigo was more observed in 1st and 2nd trimester with P value 0.04. Eczema was seen more commonly in Multigravida whereas Ambros-Rudolph et al reported high numbers in Primi. The incidence of Intrahepatic Cholestasis in different studies was found to be very low. We had a higher reporting of Polymorphic Eruption against the general incidence of 1%. There were statistically significant differences in the occurrences of associated dermatological conditions but the pre existing conditions might be due to factors of pregnancy physiology.*

Conclusion: *Some of the dermatoses have implications on pregnancy outcomes and some have cosmetic implications. A detailed examination along with proper elicitation of history and confirmation of diagnosis will guide towards clinching the diagnosis early for appropriate treatment. A coordinated effort both by the Dermatologist and the Obstetrician can alleviate the suffering and complications. Mothers need to be reassured and counseled for treatment compliance.*

Introduction

Dermatological conditions are common during pregnancy. Most (90%) of the pregnant mothers show some or other skin conditions collectively termed as Pregnancy dermatoses which can manifest during pregnancy or immediate postpartum period. They are either due to physiological phenomenon or pregnancy specific disease conditions. In addition to these two types, preexisting skin conditions may get aggravated during pregnancy.

The pregnancy dermatoses can be due to alterations in hormonal, metabolic, vascular or immunologic mechanisms during pregnancy. The skin changes that occur during pregnancy are due to the effect of proteins and steroid hormones produced by the fetoplacental unit and in response to the maternal pituitary, thyroid and adrenals.

Conditions such as striae gravidorum, melasma, nail and hair changes are Physiologic conditions due to hormonal influences. Further concern is that the immunity is suppressed during pregnancy and the physiologic skin condition may turn pathologic. Prurigo of pregnancy, intrahepatic cholestasis of pregnancy, pemphigoid gestationis etc are some of the pregnancy-specific skin conditions. Alterations in the immunologic profile during pregnancy may lead to exacerbations of pre existing skin conditions. Further Cell mediated immunity that is suppressed during pregnancy can increase the severity of preexisting skin conditions, for example Candidiasis.

There are four specific dermatoses of pregnancy, according to the most recent classification viz Pemphigoid gestationis, Pruritic urticarial papules and plaques of pregnancy (PUPPP), Atopic eruption of pregnancy, Intrahepatic cholestasis of pregnancy

Majority of the skin conditions resolve during postpartum period and symptomatic treatment is sufficient. However some skin conditions such as intrahepatic cholestasis of pregnancy, impetigo herpetiformis, pruritic folliculitis of pregnancy etc require early diagnosis and specific intervention.

Assessment of dermatological conditions during pregnancy gains much importance because some of the problems have implications on the maternal and fetal outcomes. Pruritis is seen in 1 out of 5 pregnancies that too of severe form leading to depression, hypertension, insomnia etc. Similarly some of the conditions can lead to preterm delivery, small for gestational age, miscarriage etc. if not diagnosed and treated early. Intrahepatic cholestasis during pregnancy may result in fetal distress. Varied presentations and diagnostic difficulties can pose further challenges to the management of distressing skin conditions during pregnancy and postpartum period.

Objectives

We conducted the study to describe the pattern of skin changes associated with pregnancy among antenatal mothers attending Government Vellore Medical College for pregnancy care from March 2017 to June 2017.

Methodology

We conducted a cross sectional study at the antenatal clinic in Government Vellore Medical College. The study was conducted between March 2017 and June 2017. We screened 403 mothers who were enrolled for the study. We included all Antenatal mothers who attended OPD for the current pregnancy irrespective of their gestational period. A written informed consent was obtained from all the mothers who were included in the study. A detailed screening format was prepared to obtain the details such as parity, main skin symptoms apart from demographic data. After eliciting history a detailed clinical examination was done in all participants. Detailed dermatological examination was carried out and recorded in the screening clinical format. Appropriate laboratory investigations were carried out for mothers who had suspected skin problems. Those who were diagnosed with dermatological problems either clinically or by confirmatory tests were managed with standard treatment for the respective skin conditions.

Results

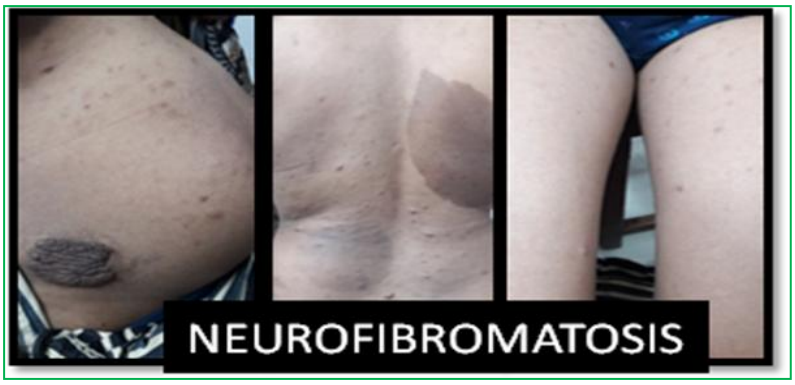
The study participants were 403 antenatal mothers. Primi mothers and second gravida together was 85%. The mothers with age less than 20 years and above 30 were 11% and 16% respectively. More than 50% of the mothers were in third trimester (Table 1). All the pregnant mothers (100%) presented with one or more physiologic changes. The common physiologic changes such as Linea Nigra, secondary Areola and Melasma were seen in more than 70% individuals. 40 mothers had Pregnancy Specific Dermatoses. Preexisting skin conditions were seen in considerable number of individual's apart from nail changes (6.4%). Acne was seen in 8% and Scabies in 3% of the mothers (Table 3).

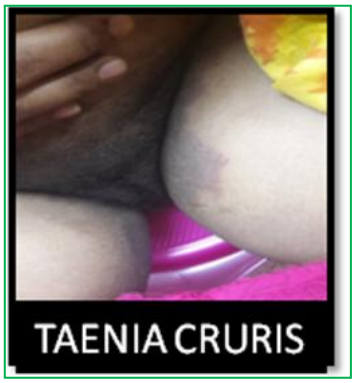
Table 1: General Characteristics of study participants - Pregnant Mothers (n=403) in Government Vellore Medical College, Mar 2017 to Jun 2017

General Characteristics	No	Proportion
Gravida wise		
Primi	192	47.6
G2	154	38.2
G3	42	10.4
G4	8	1.8
G5	4	0.8
G6	3	0.7
Presented during trimesters		
First Trimester	49	12.2
Second trimester	119	29.5
Third trimester	235	58.3
Age Distribution		
18-20	47	11.7
21-25	159	39.5
26-30	131	32.5
Above 30	66	16.3

Table 2: Distribution of Dermatological conditions (n=403) in Pregnant Mothers in Government Vellore Medical College, Mar 2017 to Jun 2017

Skin changes during pregnancy	No	Proportion
Physiologic Changes		
Linea Nigra	352	87
Secondary Areola	294	73
Striae distensae	294	73
Melasma	278	69
Palmar erythema	21	5
Naevi darkening	17	4
Montgomery tubercle	16	4
Other local pigmentation	8	2
Spider Telengiectasia	7	2
Specific Dermatoses		
Atopic eruption of Pregnancy		
Prurigo	12	2.9
Eczema	14	3.5
Pruritic Folliculitis	1	0.2
Intrahepatic Cholestasis of Pregnancy	11	2.7
Polymorphic Eruption	9	2.0
Pemphigoid gestationis	1	0.2
Preexisting or associated skin conditions		
Acne	23	5.7
Scabies	13	3.3
Miliaria	11	2.7
Acute Urticaria	9	2.3
Severe Acne	8	1.9
Herpes Simplex	6	1.5
Intertrigo	5	1.2
Psoriasis	4	1
Molluscum Contagiosum	4	1
Tenia cruris	4	1
Contact Dermatitis	3	0.7
Varicose veins (itching and eczema)	3	0.7
Varicella	3	0.7
Neurofibromatosis	2	0.5
Pustular psoriasis	1	0.2
Nail Changes	26	6.4





Discussion

Our article describes the pattern of dermatoses presented in antenatal mothers. Skin manifestations during pregnancy are due to various factors such as immunologic, endocrine and metabolic changes. In addition to the maternal hormones such as pituitary, thyroid and adrenals, the fetoplacental proteins and hormones along with progesterone also contributes to the skin changes.

Majority of the pregnant women presents with one or more cutaneous changes many of which do not require therapeutic intervention. Many conditions resolve after delivery. However some conditions require symptomatic and safe therapy and some have cosmetic implications which are a cause for concern. A considerable proportion of dermatological conditions need appropriate management without which there are chances of complications.

The cutaneous changes which are common and benign occur as physiologic changes during pregnancy. 90 percent of the pregnant women experience some pigment changes in areola, genital area etc. Hyperpigmentation which is the most common skin change in pregnancy and considered to be due to increase in the levels of estrogen, progesterone and Melanocyte Stimulating Hormone[7]. Pigmentary skin changes were the most common cutaneous condition seen in our study, Linea Nigra being the most common. Striae Distensae and Secondary Areola were the next common conditions. Kumari et al [5] had reported more than 70% of Secondary areola in their study. Striae were observed mostly in the pregnant women who were in third trimester (78%). An important observation that striae were found in young mothers (67%) was consistent with the finding that younger age has higher chances of getting striae[8]. Similar findings have been observed in many studies conducted in the hospital set up [1]. Melasma is found in 69% of the study population similar to the proportion reported by Sarkar et al [6]. Rathore SP et al had reported 18.7 % with palmar erythema[9]. Our proportion of pregnant mothers with palmar erythema was less (5%). Linea Nigrae, Striae Distensae and Melasma was seen more in the third trimester (P value <0.05). However we could not elicit from the mothers whether the changes were noticed earlier in the first or second trimesters

The specific dermatoses of pregnancy are rare and their clinical presentations are variable. There are many different classifications for the specific dermatoses of pregnancy. Initially it was Holmes and Black classification in 1983 and subsequently another classification was suggested by Shornick. Now the classification proposed by Ambros-Rudolph *et al* is broadly referred to in many studies. This classification includes mainly four conditions namely, Atopic Eruption of Pregnancy, Polymorphic eruption of Pregnancy, Pemphigoid Gestationis and Intrahepatic Cholestasis of Pregnancy. As definitive diagnostic facilities are lacking diagnosis and management becomes difficult.

Few conditions like polymorphic eruption are benign whereas conditions like Pemphigoid and Intrahepatic cholestasis may result in fetal

complications. Nevertheless benign conditions can make the patients anxious and hence counseling and reassurance is needed. Although rare, knowledge and skill to identify and treat these conditions becomes essential. In our study nearly 10 % of the mothers had pregnancy specific dermatoses all put together.

Atopic eruption of pregnancy includes Eczema, Prurigo of pregnancy and Pruritic Folliculitis. The incidence of Prurigo is said to be 1 in 300 pregnancies[4] and many other studies have reported very low incidence[5]. In our study Prurigo was the predominant finding in 12 mothers. Prurigo was more observed in 1st and 2nd trimester compared to 3rd trimester (statistically significant,P value 0.04). However it could only be clinically diagnosed. As this condition is benign and said to resolve after delivery, they were treated with emollients and antihistamines.

Eczema was seen in 14 individuals and Pruritic Folliculitis in 1 woman. Among individuals with Eczema 5 of them noticed for the first time during the current pregnancy and others could not correctly tell the onset of the condition (except in one mother who had preexisting eczema). Eczema is said to be an atopic form and is due to immunologic modifications during pregnancy. The eruption was seen more commonly in Multigravida (chi square 6.4, p value 0.01) in our study whereas Ambros-Rudolph et al reported high numbers in Primi[13].

Intrahepatic cholestasis was seen in 10% of mothers. The incidence of Intrahepatic Cholestasis in different studies was found to be very low[1]. Many had reported itching, but as there were no other specific presentations, a clinical diagnosis of Intrahepatic Cholestasis was made in 11 mothers. From the history it was observed that more than 50 % of the mothers had similar conditions during their earlier pregnancies. Prolonged cholestasis may result in Vitamin K deficiency or coagulopathy and hence appropriate management is necessary [4].

Polymorphic Eruption was seen in less than 2% of the mothers. The incidence of polymorphic eruption is said to be less than one out of 100 pregnancies and we had a slightly higher reporting. In our study it was seen more in 3rd trimester (p value 0.04) which is similar to the finding suggested by Sachdeva in his review article[12.] It is less likely to cause any maternal or fetal complications[7].

In our study diagnosis of Pemphigoid gestationis was made out in one pregnant mother based on the vesicular lesions over the abdomen. The incidence is said to be 1 in 50000 pregnancies[12]. The mother was reassured and we asked her to come for frequent visits for follow up. The disease resolves mostly but rarely complicate in the form of premature deliveries and small for date babies[10].

Associated conditions and preexisting skin conditions were seen in many individuals in our study participants. Nearly 8% of the patients had Acne and 2% had severe Acne Vulgaris. Acne in pregnancy gains importance as drugs prescribed usually for Acne is contraindicated in pregnancy. Patients were managed with Macrolide antibiotics. Other conditions such as scabies, Taenia Cruris, Miliaria, and Intertrigo etc were coexisting in pregnant mothers. Similar skin conditions in pregnancy were found in many studies[2, 3]. The disease conditions might occur coincidentally or sometimes as increased glandular functions, raised levels of estrogen etc. Neurofibromatosis was found in 2 patients. Nail changes were seen in 6.4% of the pregnant women.

Nail changes were reported to be 2% in the study conducted in similar settings[11]. There were statistically significant differences in the occurrences of associated dermatological conditions in young vs. elderly mothers, primi vs. multi and between the trimesters but since the absolute numbers were very less and are not discussed in detail. Also the pre existing conditions might be due to factors apart from physiological influence of pregnancy.

Conclusion

Pregnant mothers are at higher risk for certain dermatological diseases. This has been evidenced

by similar studies. Some of the dermatoses have implications on pregnancy outcomes. Further these skin conditions have cosmetic implications. Every AN Mother needs to be thoroughly examined by the health provider for any dermatological manifestations. A detailed examination along with proper elicitation of history and confirmation of diagnosis will guide towards clinching the diagnosis for appropriate treatment. Early diagnosis and appropriate management is to be initiated for the conditions. A coordinated effort both by the Dermatologist and the Obstetrician can alleviate the suffering as well as the complications. Mothers need to be reassured and counseled regarding nature of the skin problems and for treatment compliance.

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