The Professional Medical Journal
www.theprofesional.com

ORIGINAL PROF-2789

PREGNANCY;
A STUDY ON FREQUENCY OF SKIN CHANGES DURING PHYSIOLOGIC AND PATHOLOGIC

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Article received on:
27/01/2015
Accepted for publication:
16/03/2015
Received after proof reading:
02/06/2015

ABSTRACT… Objective: To determine frequency and pattern of skin changes during pregnancy**. Study Design:** Cross sectional study. **Setting:** Outpatient department of Dermatology and Gynaecology at Dow University Hospital, Ojha campus in Karachi. **Period:** May 10, 2013 and January 10, 2014. (8 months). **Patients & Methods:** It comprises 80 consecutive pregnant women with skin problem, who presented in outpatient department of Dermatology with referral cases from Obs&Gynae outpatient department.Information was collected on predesigned questionnaire after taking informed consent. **Results:** Total 80 pregnant women were included in study with different skin problems. The results indicate thatmost of women 72.5% presented during third trimester and 43.8% women were primigravida. Striagravidarum and Ineanigra was commonest physiological changes, reported in 54%, 52% women consecutively. Eczema,utricaria and candidiasis were reported in 16.3% and 15% and 15% women consecutively. Prurigo of pregnancy was reported in 17.5% followed by pruritic folliculitis of pregnancy in 6.3% women. **Conclusions:** This study concluded that skin changes during pregnancy are frequent in Pakistani women. These changes could be physiological or pathological.

Key words: Physiologic and pathologic skin problems in pregnancy, Pakistani women.

Article Citation: Shukar-ud-din S, Asim SA. Pregnancy; a study on frequency of skin changes during physiologic and pathologic. Professional Med J 2015;22(6):776-781.

INTRODUCTION

During pregnancy the skin undergoes different changes. These changes can cause by the profound endocrine, metabolic and immune alteration during the gestational period.[1] Skin lesions in pregnant women could be caused by physiologic or pathologic changes.[2] So, there are three types of pregnancy associated skin changes. Physiological skin changes of pregnancy, Diseases affected by pregnancy and Dermatosis of pregnancy.[3]

Physiologic skin changes in pregnancy include changes in pigmentation, alterations of the endocrine function, connective tissues and vascular system.[4]

Several skin disorders are aggrevated by pregnancy like acne, eczema and candidiasis.[5]

The specific dermatoses of pregnancy represent a heterogeneous group of inflammatory skin diseases. These includepemphigoidgestationis, polymorphic eruption of pregnancy, intrahepatic cholestasis of pregnancy and atopic eruption of pregnancy. All presented with severe itching and skin changes.[6]

A study conducted by Kumari R in South India. They studied 607 pregnant women and observed physiologic skin changes in all cases, specific dermatosis in 22 cases and other dermatosis affected by pregnancy in 125 cases.[5] Puri N et al reported striagravidarium as commonest dermatological problem (62%) in their study.[3] A study conducted by Muzaffar and colleague have reported melasma in 46.4% of cases.[7] Tunzi M et al reported prurigo of pregnancy in one out of 300 pregnancies in all trimesters.[8]

The objective of this study was to determine the frequency and pattern of skin changes during the pregnancy. There are very few studiesconducted in our country in relation to skin problem in pregnancy., so this study was conducted in Pakistan to notice physiologic and pathologic

changes in pregnancy, as some skin problems may be associated with bad maternal and fetal outcome.

PATIENTS& METHODS

This was a cross sectional study conducted between May 10, 2013 to January 10, 2014.A total of 80 consecutive pregnant women included in the study, who presented at outpatient department of Gynaecology and Dermatology, Dow University Hospital, Ojha Campus. Informed consent was taken after explaining the purpose of study.Patients presented withphysiological skin changes and having skin problem during pregnancy in any trimester, were included in the study (both physiological and pathological).

Data was collected by using a predesigned questionnaire which included age, gravidity, parity, education, socioeconomic status, trimester of pregnancy, presenting complain related to dermatological problem, associated with itching, patches, papules on the body, jaundice, vaginal discharge. Past medical,sexual history and family history asked in detail. After taking a detailed history, through clinical examination was done. Physiological skin changes noted on clinical examination.ifdermatosis of pregnancy was present then type of lesion and site noted. Important investigation (like LFTs or screening for syphilis etc) done accordingly.

Data was analyzed on Statistical Package for Social Sciences (SPSS) version 16 software. Chi square test applied for categorical variables and student t test for continuous variables. A p-value <0.05 was considered to be statistically significant.

RESULTS

In total 80 pregnant women were included in the study. Out of which 61 (76.3%) were younger than 30 years. Regarding gravidity, 35 (43.8%) were primigravida, 20 (25%) were second gravida and 25 (31.3%) were at least third gravida and more. So 55 (68.8%) women were prim parous and 25 (31.3%) were multiparous. Fifteen (18.8%) women presented during first trimester, 28 (35%) women in second trimester and 58 (72.5%) were presented during third trimester with skin problem.

Regarding physiological skin changes during pregnancy, of the total study population 60 (70%) women had pigmentation, 42 (51.9%) women had striagravidarum, 44 (54.3%) had lineanigra, Ten (12.5%) women had montgomery tubercle, 9 (11.3%) had palmar erythema and 22 (27.5%) had alopecia. Pedal edema, melasma, spider angioma, improvement in hair growth and gingival hyperplasia was reported in 26 (32.5%), 18 (22.5%), 2 (2.5%), 17 (21.3%), 15 (12%) of women consecutively.

We reported miliria in 3(3.8%), candidiasis in 12 (15%) womenand herpeslabialis in 1 (1.3%) of pregnant women. Tweleve (15%) patients had utricaria, 13 (16.3%) had eczema, ,5 (6.3%) had sexually transmitted disease and 3 (3.8%) had tineaversecolor.Scabies was seen in 7 (8.6%) patients. Molluscumcontagiosum and psoriasis was seen in two, two (2.5%) patients.

If we discuss about dermatosis of pregnancy, out of total 80 pregnant women, prurigo of pregnancy was reported in 14 (17.5%) women followed by pruritic folliculitis of pregnancy in 5 (6.3%) patients and polymorphic eruption of pregnancy in only two patients. (2.5%). No case of pemphigoidgestationis observed.

PHYSIOLOGICAL SKIN CHANGES OF PREGNANCY	Frequency	%age
Pigmentation		
Striagravidarum	42	51.9%
Linea nigra	44	54.3%
Pedal edema	13	16.3%
Palmar erythema	09	11.3%
Montgomery tubercle	10	12.5%
Melasma	18	22.5%
Nail changes	13	16.3%
Gingival hyperplasia	15	12%
Hirsuitism	17	21.3%
Improvement in hair growth		
Spider angioma	02	2.5%

DISEASES AFFECTED BY PREGNANCY	Frequency	%age
Utricaria	12	15%
Eczema	13	16.3%
Candidiasis	12	15%
Tineaversecolor	03	3.8%
Herpes	01	1.3%
Psoriasis	02	2.5%
Scabies	07	8.6%
Acne	12	14.8%
DERMATOSIS OF PREGNANCY	**Frequency**	**%age**
Prurigo of pregnancy	14	17.5%
Polymorphic eruption of pregnancy	02	2.5%
Pemphigoidgestationis	-	-
Pruritic folliculitis of pregnancy	05	6.3%

Table-I. Skin changes during pregnanc: physiologic and pathologic

DISCUSSIONS

The skin may be the sole organ affected by a multisystem disease. Physiological cutaneous skin changes during pregnancy are common and rarely cause major concern.[9] Increased level of melanocyte stimulating hormone, estrogen and progesterone leads to increased development of pigmentation during pregnancy.[10]

A prospective study was conducted on 60 pregnant women to find out frequency of physiological skin changes. The study was conducted by Esteve E et al,lineanigra was reported in 75% of women in contrast to that in our study it was reported in 54 % of women. Vascular spider was reported in 53% women, striagravidarium in around 61% women, , edema of leg in 37% and acne in around 23% of pregnant women in the same study. If we compare it with the presnt study we have found spider angioma in 2.5% of women, striagravidarium in around 52%, pedal edema in 15% of women and acne was reported in 14.8 % women.[11]

Palmar erythema could be physiological or pathological during pregnancy. The pathological conditions include some dermatosis, autoimmune, hepatic and infectious disease.[12]

In the same study conducted by Esteve E et al, palmar erythema have reported in 30%, these result are similiar to those of our study. (27.5%).[11]

A study was conducted on Caucasian women reported that 71% women developed striagravidarum at least at one site.[13]

Another study was conducted on 280 primiparous Thai women in Siriraj Hospital. These women were assessed in immediate postpartum periodfor physiological skin changes. Out of total 77% women had developed striagravidarrum.[14]

Montogomerytubercle werenoted in 75% cases in study conducted on 650 pregnant women conducted in Kashmir valley of North India. Palmar erythema was seen in 6.3% of cases. Montogomery tubercles were noticed in around 12% of women in our study, and palmar erythema was in 27.5% of women. These results are not consistent with that study.[15]

Prevalence of melasma varies among different population. The present study revealed that melasma was identified in 22.5% women. In other studies concerning skin changes conducted in Fracnce, prevalence of melasma was found5%. [(16)]More recently another study conducted in Pakistan in 2006 have shown melasma in 46% of pregnant women.[17]

A cross sectional study was conducted at Shahed University Hospitals of Tehran on 400 pregnant women to detrmine the prevalence of melasma . It was reported 15.8% and malar pattern was seen in 65.9% cases.[(18)]So these results are not consistent with present study.

In contrast to that Kumari et al reported the improvement in hair growth and miliaria in 0.82% and 3.8% women consecutively. [(5)]In our study improvement in hair growth was reported in 21% and miliaria in 1.65% women.

Preexisting skin conditions such as eczema or acne may worsen in pregnancy.[(19)]In our study co incidental dermatological disorders included,

utricaria 14.8%, scabies 8.6%, eczema 16.3%, acne 14.8% ,Tineaversecolor 3.8%, atopic dermatitis 3.7%. If we compare these results with study conducted by Hassan I et al, ,utricaria was reported among 1.3% women, scabies 2%, eczema 0.6%, ,atopic dermatitis 0.3% and acne among 0.1% of women. None of the patients reported any change in these conditions over the course of pregnancy.[15]

Study conducted by PuriN et al reported acne among 5% patients, utricaria among 4% and scabies in 16% of patients.[3]

Genital warts were reported in 65% and molluscumcontagiosum in 5% of patients in the same study. In comparision to it our study reported genital warts in 6.2% women and molluscumcontagiosum in 2.5%of patients. Gangivitis was reported in 6% of women but in our study it was reported in 12% of women.[3]

Candidiasis is fungal infection that is very common during pregnancy.Total of 100 pregnant women were included in study conducted by Olowe OA et al They reported that one in every three women was infected with candidiasis. Prevalence was found highest in the third trimester. In comarasion to that our study reported candidiasis in 15% of women.[20]

Another study conducted on 170 pregnant women in India during pregnancy. The study reported candidiasis in 21.7% women, that is not consistent with present study. (around 15% of women.)

In the same study Condylomataacuminate (genital warts) was reported as the commonest sexually transmitted disease in 4.70% women. Our study reported itin 6.2% patients. Scabies was observed in 17.6% of women in this study but our study reported it in 8.6% of pregnant women.[21]

The specific dermatosis of pregnancy represents a heterogenous group of ill defined pruritic skin diseases unique to pregnancy.[22] Polymorphic eruption of pregnancy usually occurs in primiparous women during the last trimester of pregnancy. [(23)]Pemphigoidgestationis (PG) is a rare vesiculobullousdermatosis of pregnancy. It is commonly seen in second or third trimester.[24]

In our study prurigo of pregnancy was recorded in 17.5% of women in contrast to another study conducted on 100 pregnant women in Pakistan by Naiz F et al in 2006, they reported prurigo in 96% of women followed by pruritic folliculitis of pregnancy in 2% of women. Our study reported pruritic folliculitis in 6.3% of women.[17]

A study conducted at King Abdul Aziz Hospital, Makkah. Study was conducted among 47 pregnant women by Samdani AJ. They reported Polymorphic eruption of pregnancy in 38% of women and prurigo of pregnancy in 8.5% of women.Pruritic folliculitis was reported in 4.2% of women in study conducted by Samdani AJ. The results are close to our study, that is 6.3%. In our study polymorphic eruption was reported only in 2.5% of women in contast .[25]

The study conducted by Ambros- Rudolph et al, among 505 pregnant women. They evaluate pruritic dermatosis retrospectively at two university based dermatologic hospitals. (London & Australia) They reported polymorphic eruption of pregnancy (PEP) in 21.6% of patients, eczema in 49.7% patients, pemphigoidgestationis (PG) in (4.2%) and pruritic folliculitis of pregnancy (0.2%) of patients.[22]

CONCLUSIONS

In the current study it was found thatpigmentation, stria, lineaalba and melasma was common physiological skin changes.Utricaria, eczema and candidiasis were common diseases affected by pregnancyand prurigo of pregnancy was commonest dermatosis in our Pakistani women. Sexually transmitted disease was also reported in 6.2% women.

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"The only difference between the saint and the sinner is that every saint has a past, and every sinner has a future."

Oscar Wilde

AUTHORSHIP AND CONTRIBUTION DECLARATION

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