Original Article

Dermatoses in pregnancy: Specific dermatoses vis-a-vis others, in a tertiary hospital in Kolkata

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Abstract

Objective To document the frequency of specific and other dermatoses in pregnancy**.**

Methods Two hundred and twenty five consecutive pregnant patients irrespective of the duration of pregnancy and gravidity reporting to our skin OPD were enrolled in the study. Out of them, 218 patients who gave consent were included in the study.

Results The specific dermatoses of pregnancy were subclassified into four main groups - atopic eruption of pregnancy (AEP), polymorphic eruption of pregnancy (*syn*. pruritic urticarial papules and plaques of pregnancy) [PEP], pemphigoid gestationis (PG), intrahepatic cholestasis of pregnancy (ICP). 39 (68.4%) patients belonged to AEP, 14 (24.5%) to PEP, and 1 (1.8%) to PG and 3 (5.2%) to ICP. About half of the patients with AEP were found to have raised IgE level. Five STD patients were reported in the first trimester, 2 in second and 7 in third trimester. Patients reported with molluscum contagiosum (4), genital herpes (4), condyloma acuminata (3), primary chancre (1) and condyloma lata (1). One patient with molluscum contagiosum was HIV positive. Among the *non STD other dermatoses* in pregnancy, scabies topped the list affecting in all trimesters. Fungal infections (tinea and pityriasis versicolor) was a close second. One case each of pompholyx, psoriasis, and leprosy reported to us.

Conclusion Early diagnosis of specific dermatosis of pregnancy may prevent harmful effect on mother and fetus.

Key words
Pregnancy, sexually transmitted disease, dermatoses.

Introduction

The specific dermatoses of pregnancy represent a heterogeneous group of pruritic skin diseases that have been classified as pemphigoid gestationis (PG), polymorphic eruption of pregnancy (*syn*. pruritic urticarial papules and plaques of pregnancy) (PUPPP), intrahepatic cholestasis of pregnancy (ICP), and atopic eruption of pregnancy (AEP). The pathogenesis of these diseases is yet unknown, and there is limited literature on their clinical characteristics. Based on the results of a retrospective two-centre study on more than 500 pregnant patients, a rationalized classification of these dermatoses has recently been proposed that includes the following diseases: pemphigoid (herpes) gestationis (PG), polymorphic eruption of pregnancy (PEP: synonymous with pruritic urticarial papules and plaques of pregnancy), intrahepatic cholestasis of pregnancy (ICP) and atopic eruption of pregnancy (AEP).[1] While some dermatoses, such as PEP and AEP, are distressing only to the mother because of severe pruritus, PG may be associated with small-for-date babies, while ICP poses an increased risk of fetal distress, prematurity and stillbirth. Familiarity with the clinical presentation of these diseases is essential, as unequivocal diagnostic tests are available only for PG and ICP, and a pregnant

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patient with pruritus needs information on her condition, as well as the associated fetal risks. Our purpose was to find out the proportion of specific pregnancy dermatoses along with other dermatoses amongst all the enrolled pregnant patients presenting with skin manifestations.

Methods

Two hundred and twenty five consecutive pregnant patients irrespective of the duration of pregnancy and gravidity reporting to our skin OPD were enrolled in the study. Out of them, 218 patients who gave a written consent were included in the study. A comprehensive set of clinical and obstetric parameters were obtained including demographic parameters, gestation, parity, chief complaints related to skin, presence of itching, onset in relation to duration of pregnancy, jaundice, vaginal discharge, past or family history of similar lesions, exacerbating factors, associated medical or skin disorders, history of similar skin changes in previous pregnancies, localization, and morphology of skin lesions, after obtaining informed consent from the patient. Relevant systemic examination was carried out. If any preexisting skin disease was present, evidence of exacerbation or remission was recorded. Liver function tests were done in relevant patients. Simple dermatological tests like scraping for KOH smear, gram stain, were done. Patients were classified into three groups - true pregnancy dermatoses (group I), sexually transmitted diseases [STD] (group II), non-STD other dermatoses (group III).

Results

Of the 218 patients recruited in the study 122 (56%) were primigravida and 96 (44%) were multigravida with age ranging from 16 to 42 years with a mean of 24 years. Most of them presented in the second 98 (45%) and third trimester 76 (34%).

They were classified as pregnancy specific dermatoses (group I), STD (group II), *non STD other dermatoses* (group III). Fifty seven (26.1%) patients belonged to group I, 14 patients (6.4%) to group II, 147 patients (67.5%) to group III.

Based on clinical history, clinical examination and relevant histology, 57 patients with specific dermatoses of pregnancy were subclassified into four main groups - AEP, PEP, PG and ICP. 39 (68.4%) patients belonged to AEP, 14 (24.5%) to PEP, 3 (5.2%) to ICP and 1 (1.8%) to PG. About half of the patients with AEP were found to have raised IgE level. Most of them (63%) presented in the late second trimester. About 15% of the patients with AEP had history of suffering from adult atopic dermatitis (AD) with exacerbation during pregnancy. Out of the 14 patients who were diagnosed with PEP, 2 of them had multiple pregnancy, 1 had polyhydramnios while others had no such association. Majority of them presented in the third trimester. Four of them had raised IgE level.

Out of the 3 patients with ICP, 2 had mildly raised conjugated bilirubin with subtle rise in liver enzymes while the third one had mild clinical jaundice with pruritus. One of these patients with ICP, gave birth to the baby at 35^{th} week while the rest did not have any adverse fetal out come. The patient with PG presented in the mid-third trimester but there was no complication related with the fetus. She was treated with topical and systemic corticosteroids with fair control of the disease.

Among the STD patient (**Table 2**), 5 reported in the first trimester, 2 in second, 7 in third trimester. Patients reported with molluscum contagiosum (4), genital herpes (4), condyloma acuminata (3), primary chancre (1), condyloma lata (1) and HIV positive (1).

Table 1 Specific dermatoses in pregnancy (n=57).

Dermatosis	*N (%)*
Atopiform eruption of pregnancy	39 (68.5)
Polymorphic eruption of pregnancy	14 (24.5)
Intrahepatic cholestasis of pregnancy	3 (5.2)
Pemphigoid gestationis	1 (1.8)

Table 2 Sexually transmitted diseases in pregnancy (n=14).

Diseases	*N (%)*
Molluscum contagiosum	4 (28.6%)
Genital herpes	4 (28.6%)
Condyloma acuminata	3 (21.5%)
Primary chancre	1 (7.1%)
Condyloma lata	1 (7.1%)
HIV positive	1 (7.1%)

Table 3 Non-sexually transmitted diseases (n=148).

Diseases	*N (%)*
Scabies	48 (32.4%)
Pyoderma	22 (14.8%)
Tinea	21 (14.2%)
Melasma	17 (11.6%)
Allergic contact dermatitis	14 (9.5%)
Pediculosis	8 (5.4%)
Verruca vulgaris	7 (4.7%)
Chickenpox	5 (3.4%)
Psoriasis	3 (2%)
Pompholyx	1 (.6%)
Leprosy	1 (.6%)

One patient with molluscum contagiosum was HIV positive.

Among the non-STD other dermatoses in pregnancy, scabies topped the list in all trimesters, fungal infections (tinea and pityriasis versicolor) was a close second. One case each of pompholyx, psoriasis, and leprosy reported to us.

Pruritus was noted in 124 (56%) patients and was mostly attributed to nonspecific dermatoses (54%) followed by the specific dermatoses of pregnancy. Nonspecific vulval pruritus was found in 8.9% cases while pruritus with white discharge was encountered in 24% cases. Vaginal candidiasis was found in 16 (30%) cases suffering from pruritus with vaginal discharge.

Discussion

Dermatoses related to pregnancy or the postpartum period are known as the specific dermatoses of pregnancy. Some aspects regarding the etiology and the nosologic classification of various pregnancy dermatoses are highly controversial. The first classification of dermatoses of pregnancy was proposed by Holmes and Black in 1983 and included four skin conditions: 1. pemphigoid gestationis (PG, *syn.* herpes gestationis) 2. polymorphic eruption of pregnancy (PEP) (*syn.* pruritic urticarial papules and plaques of pregnancy [PUPP]) 3. prurigo of pregnancy (PP) and 4. pruritic folliculitis of pregnancy (PF).[2] A second classification, proposed by Shornick in 1998, included intrahepatic cholestasis of pregnancy (ICP) in addition to PG, PEP and PP, PG.[3] The most recent rationalized classification was proposed by Ambros-Rudolph *et al.*[1] in 2006 which is as follows: 1. atopic eruption of pregnancy, 2. polymorphic eruption of pregnancy, 3. pemphigoid gestationis and 4. intrahepatic cholestasis of pregnancy, described as specific dermatoses of pregnancy.[1] According to a study with 3192 subjects, the incidence of true pregnancy dermatoses has been found to be 0.5% to 3.0%.[4] In an Indian study by Thapa *et al.*[5] the incidence of pregnancy specific dermatoses has been found to be 3.6%. Out of 218 patients, 26.14% patients presented with true pregnancy dermatoses. This, however, does not reflect the actual incidence as we have included only those patients who were referred to us for some dermatological or STD related complaint.

During gestation a woman can develop any kind of skin disorder. Pruritus represents the leading symptom in the majority of dermatoses of pregnancy. In an Indian study, Shivakumar and Madhavamurthy[6] found pruritus to be the commonest symptom (58.82%). We found the incidence of pruritus in our study to be 56%

out of which most were due to nonspecific dermatoses.

The identification of the most of the types of pregnancy dermatoses is based mainly on clinical criteria whereas specific diagnostic tests such as histopathology, immunofluorescence or laboratory investigation help in confirming the diagnosis for PG, ICP and impetigo herpetiformis. In our study, out of the 3 patients who were diagnosed to have ICP, 2 had mildly raised conjugated bilirubin with subtle rise in liver enzymes while the third one had mild clinical jaundice with pruritus. The patient who had bullous eruption, was subjected to skin biopsy for histopathology and DIF, to be diagnosed as pemphigoid gestationis on the basis of this.

Conditions like PG and AEP tend to recur in subsequent pregnancies usually with an earlier onset and increased severity.

ICP usually starts in the third trimester of pregnancy but in about 25% of cases it may appear as early as the late second trimester of pregnancy, or even much earlier, in the first trimester of pregnancy (in 10% of cases).[7,8]

Pruritus is the commonest manifestation in ICP, skin involvement in the form of excoriated papules, scratch marks, nodules of prurigo being secondary to pruritus. Jaundice, found only in 10% of cases due to concomitant extrahepatic cholestasis,[9] complicates the most severe and prolonged episodes.

PEP (also called pruritic urticarial papules and plaques of pregnancy) is a benign, self-limited, pruritic, papulo-urticarial inflammatory disorder that usually affects the primigravida in the last trimester of pregnancy or immediate postpartum period. It is generally accepted that PEP and pruritic urticarial papules and plaques of pregnancy are identical disorders, which are exclusively related to pregnancy. The incidence of PEP is about 1:160 pregnancies and it is considered as the second most common skin dermatosis in pregnancy after atopic eczema.[10]

In our study, 14 patients out of 218 patients included in the study were diagnosed to have PEP. Though this does not reflect the actual incidence, as we had included only those patients who were referred to us for some dermatological or STD related complaint. A recent retrospective study involving 181 patients with PEP revealed a high frequency of atopy among patients (55%).[10] We found 4 patients diagnosed with PEP to have raised IgE level.

AEP presents as benign pregnancy specific dermatoses that is characterised by intense itching and eczematous or papular eruption with a personal and/or family history of atopy and/or elevated total IgE levels AEP typically recurs in subsequent pregnancies due to the atopic background.

In the present study, AEP constituted the main pregnancy specific dermatoses with an incidence of 68.4% in patients presenting with pregnancy specific dermatoses. According to Ambros-Rudolf,[1] AEP has an incidence of at least 50%. Though we found about half of the patients diagnosed with AEP had raised IgE level but this cannot be considered as the sole indicator of atopy, history and clinical manifestations have to be taken into account.

Among the STDs, viral infections i.e. molluscum contagiosum, herpes simplex and condyloma acuminata were the most common. One patient was HIV positive. Shivkumar and Madhavmurty[6] also found condyloma acuminata to be the most common STD in their study.

Among patients with pruritus and vaginal discharge, vaginal candidiasis was the most

common (30%). Vaginal candidiasis ranged up to 30% according to several literatures.[1,5,6]

Scabies was the most common non STD other dermatoses in a study by Shivkumar and Madhavmurty.[6] Our study also supported this finding. This, as suggested, was due to the poor socio-economic status of the patients attending the out-patient department.

Pregnancy may bring about a wide range of physiological and non-physiological changes. In our study we have emphasised mainly on the dermatoses specific to pregnancy, dermatoses associated with pregnancy which include STDs and non STD other dermatoses. Pruritus represents the leading symptom in the majority of dermatoses of pregnancy and it should never be ignored or neglected. It is very important for the physician to identify the causes of pruritus in pregnancy and also the STDs missed out in routine serological screening during pregnancy. As some of the pregnancy specific dermatoses are associated with poor fetal prognosis they need to be identified by the clinician to take adequate precaution to avoid any catastrophe. Only one patient included in our study had premature labour at thirty-five weeks of pregnancy. The patient should be alerted regarding the recurrence of diseases like PG, ICP and impetigo herpetiformis in subsequent pregnancies.

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