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Original Article

Frequency of pruritic dermatoses among pregnant women

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Abstract

Objective To determine the frequency of pruritic dermatoses among pregnant women.

Methods This, cross-sectional study was conducted at Obstetrics out-patient department, Bahawal-Victoria Hospital, Quaid-e-Azam Medical College, Bahawalpur, over a period of 6 months in 238 Pregnant women of age ranging from 20 to 40 years. Following specific pruritic dermatoses of pregnancy were searched and recorded on pre-designed proforma and analyzed: pemphigoid gestationis, polymorphic eruption of pregnancy, prurigo of pregnancy, intrahepatic cholestasis of pregnancy, eczema in pregnancy and pruritic folliculitis of pregnancy.

Results Among 238 pregnant women, 14 (5.9%) presented with pruritic dermatosis of pregnancy while in rest of 224 (94.1%) patients no specific dermatosis of pregnancy was found. Out of those 14 patients, polymorphic eruption of pregnancy was seen in 5 (35.7%) patients, eczema in pregnancy in 4 (28.6%), pemphigoid gestationis in 2 (14.3%), prurigo of pregnancy in 1 (7.1%), intrahepatic cholestasis of pregnancy in 1 (7.1%) and pruritic folliculitis of pregnancy in 1 (7.1%) patient. The dermatoses of pregnancy was detected in 5 (35.7%) patients in the age group 20-25 years, 4 (28.6%) patients of age group of 26-30 years, 2 (14.3%) patients of age group of 31-35 years and 3 (21.4%) patients of age group of 36-40 years of age.

Conclusion Pruritic dermatoses of pregnancy are not uncommon among pregnant women and should be considered while evaluating pregnant women. Polymorphic eruption of pregnancy is most frequent pruritic dermatosis of pregnancy, followed by eczema of pregnancy.

Key words
Pregnancy, pemphigoid gestationis, polymorphic eruption of pregnancy, prurigo of pregnancy, intrahepatic cholestasis of pregnancy, pruritic folliculitis of pregnancy.

Introduction

Pregnancy is a physiological state of woman which is associated with complex endocrinological, immunological, metabolic, and vascular changes.[1,2] Due to these changes, a pregnant woman becomes susceptible to changes in skin and appendages. These changes may be physiological (hormonal), changes in pre-existing skin diseases or development of new pregnancy specific dermatoses.[1,2]

The commonly encountered physiological changes include striae distensae (occurring in up to 90% of pregnant women), hormonal alterations resulting in melasma (occurring in up to 75% of women during pregnancy) and generalized hyperpigmentation. Vascular alterations result in edema, palmar erythema, spider nevi, varicosities, cutis marmorata, gingival edema and redness. Some women also notice hair and nail changes. Similarly the activity of eccrine and sebaceous glands

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increases, while that of apocrine gland decreases.[3]

Likewise, the concerns of the patient may range from cosmetic appearance, to the chance of recurrence of the particular problem during a subsequent pregnancy, to its potential effects on the fetus in terms of morbidity and mortality.[4,5]

Pruritic dermatoses of pregnancy include an ill-defined heterogeneous group of pruritic skin eruptions which are seen only in pregnancy. These include atopic eruption of pregnancy, polymorphic eruption of pregnancy, pemphigoid gestationis and intrahepatic cholestasis of pregnancy. Atopic eruption of pregnancy is the most common of these disorders. Most skin eruptions resolve postpartum and require only symptomatic treatment.[6]

Clinical diagnosis is based on morphologic criteria and is very important for specific dermatoses of pregnancy, because unequivocal diagnostic tests are only available for some of them. Specifically immunofluorescences for pemphigoid gestationis or laboratory investigations for intrahepatic cholestasis of pregnancy are available.[7-9] The pruritic dermatoses of pregnancy include atopic eruption of pregnancy, polymorphic eruption of pregnancy, pemphigoid gestationis and intrahepatic cholestasis of pregnancy.[10-13]

While some of these dermatoses are merely unpleasant for the mother due to severe pruritus, others are also accompanied by a significant fetal risk. Unclear clinical definitions, the lack of a practically relevant classification, a lack of safe diagnostic tests, as well as limited therapeutic possibilities have made their management difficult in past decades.[14]

In literature, different studies have reported different frequencies of pruritic lesions among pregnant women e.g. the frequency of polymorphic eruption was 38.29% in one study and 21.6% in another study.[10,15]

Scanty local data exist on the present subject, hence this study was undertaken to determine the prevalence of different pruritic dermatoses during pregnancy.

Methods

This, cross-sectional study was conducted at Obstetric out-patient department, Bahawal-Victoria Hospital, Quaid-e-Azam Medical College, Bahawalpur, over a period of six months. By taking margin of error as 5%, confidence level as 95% and expected frequency of pemphigoid gestationis as 19.14 %, the sample size for this study was calculated as 238 patients. Pregnant women of age ranging from 20 to 40 years with primigravida or multigravida gravidity were included in the study. Patients with history of cutaneous drug reaction and past history of generalized skin disorder were excluded from the study.

Two hundred and thirty eight pregnant females, fulfilling the inclusion criteria, presented to the obstetric outpatient department (OPD) for routine clinical follow-up checkup were included in the study. After informed consent, general data including age, socioeconomic status and educational level were collected. The socioeconomic status was classified into three sub-groups on monthly income basis as low: < Rs. 10,000, middle: Rs. 10,000 to 50,000 and high: ≥ Rs. 50,000 to onward. The educational status was categorized as literate (who can read and write) and illiterate.

All the patients underwent skin examination for the detection of pruritic dermatoses i.e. pemphigoid gestationis, polymorphic eruption of pregnancy, prurigo of pregnancy, intrahepatic

cholestasis of pregnancy, eczema in pregnancy and pruritic folliculitis of pregnancy.

All the collected data were entered into SPSS version 10 and analyzed. The qualitative data variables were presented as frequency distribution and percentages. Quantitative data variables e.g. age (in years) were presented as means and standard deviations. The main outcome variable was frequency distribution of pruritic dermatoses. Age, socio-economic, education and gravidity wise stratification of data in relation to frequency of pruritic dermatoses was carried out for any correlation.

Results

There were a total of 238 pregnant women included in this study. The mean age of the patients was 27.63 ± 5.42 (range 20-40 years). There were 91 (38.2%) patients in the age range of 20-25 years while the age of 75 (31.5%) patients was in the age range of 26-30 year, 48 (20.2%) patients were of age range of 31-35 years and 24 (10.1%) of age range of 36-40 years. Out of the total 238 pregnant women, there were 130 (59%) women who belonged to low socioeconomic status, 68 (29%) to middle and 40 (17%) to high socio-economic status. There were 114 (48%) women who were primigravida and 124 (52%) were multigravida.

There were 14 (5.9%) patients in whom a pruritic dermatosis of pregnancy was found while in rest of 224 (94.1%) patients no specific dermatosis of pregnancy was found. Out of those 14 patients, pemphigoid gestation was seen in 2 (14.3%) patients, polymorphic eruption of pregnancy in 5 (35.7%), prurigo of pregnancy in 1 (7.1%), intrahepatic cholestasis of pregnancy in 1 (7.1%), eczema in pregnancy in 4 (28.6%) and pruritic folliculitis of pregnancy in 1 (7.1%) patient (**Table 1**).

Table 1 Frequency of pruritic dermatoses of pregnancy (n=14).

Dermatoses	*N (%)*
Polymorphic eruption of pregnancy	5 (35.7)
Eczema in pregnancy	4 (27.6)
Pemphigoid gestationis	2 (14.3)
Prurigo of pregnancy	1 (7.1)
Intrahepatic cholestasis of pregnancy	1 (7.1)
Pruritic folliculitis of pregnancy	1 (7.1)

The dermatoses of pregnancy was detected in 5 (35.7%) patients in the age group 20-25 years, 4 (28.6%) patients of age group of 26-30 years, 2 (14.3%) patients of age group of 31-35 years and 3 (21.4%) patients of age group of 36-40 years of age. Out of the 14 patients with diagnosis of dermatoses of pregnancy, 8 (57%) patients belonged to low socio-economic group, 4 (28.7%) of middle socio-economic group and 2 (14.3%) of high socio-economic group. Among 14 patients with dermatoses of pregnancy, there were 8 (57.1%) patients who were primigravida and 6 (42.9%) patients who were multigravida. Out of these 14 patients, 8 (57.1%) patients who were literate and 6 (42.9%) were illiterate.

Discussion

In the present study of 238 pregnant females, specific pruritic dermatoses of pregnancy were detected in 5.9% of all registered patients. Among these, polymorphic eruption was seen most commonly i.e. in 35.7 % patients, followed by eczema of pregnancy i.e. in 28.6% patients.

In literature, many studies have been conducted in this regard. Almost every study has shown different results. Samdani *et al*.[15] performed a study on 47 pregnant patients with established diagnosis of pruritic dermatoses to find out the frequency and pattern of the dermatoses. Among these 47 patients, polymorphic eruption (PEP) was the most common (38.29%) of the pregnancy-related dermatosis followed by intrahepatic cholestasis of pregnancy (25.53%), pemphigoid gestationis (19.14%), prurigo of

pregnancy (8.51%), pruritic folliculitis (4.25%) and impetigo herpetiformis (4.25%). Like our study, polymorphic eruption was the most common of all the disorders. The other results of this study were also comparable. However, in study by Samdani *et al*.[15] the frequency of intrahepatic cholestasis was high i.e. 25.5% while this was 7.1% in our study. The age group most affected by this disorder in study by Samdani *et al*.[15] was 21-30 years (42.55%), followed by 31-40 years (38.29%), <20 years (12.76%) and >40 (6.38%). The maximum incidence of pregnancy-related dermatoses is also comparable to our results as majority of patients belong to younger age group. This higher population of younger age group can be related to early marriages of young female as a cultural trend in our country.[15]

In a study by Ambros-Rudolph *et al*.[5] 505 pregnant female were studied. The following frequency of dermatoses was observed: eczema in pregnancy (49.7%), polymorphic eruption of pregnancy (21.6%), pemphigoid gestationis (4.2%), intrahepatic cholestasis of pregnancy (3%), prurigo of pregnancy (0.8%), pruritic folliculitis of pregnancy (0.2%), and miscellaneous dermatoses (20.6%). The most common dermatoses observed in their study was eczema, while in our study was polymorphic eruption of pregnancy. In both studies, PG, ICP, prurigo of pregnancy and pruritic folliculitis were low.

In another study by Kumari *et al*.[3] a total of 607 pregnant women were included in the study. 22 (3.6%) cases of specific dermatoses of pregnancy were seen. Of these the most common was pruritic urticarial papules and plaques of pregnancy (also known as polymorphic eruption of pregnancy) with a total of 63.6% (14/22) cases followed by 5 (22.7%) cases of pruritus gravidarum. In their study, 49.9% pregnant women were primigravida and 51.1% were multigravida. This observation is quite comparable to our study.

The above discussion suggests that frequency of pruritic dermatoses varies greatly among different studies across the globe. The frequency may be higher than that observed in our study, as most of the patients in our set up do not present to tertiary care units due to negligence, poverty and lack of facilities. This may also be due to delayed referral.

Conclusion

Pruritic dermatoses of pregnancy are not uncommon among pregnant women and should be considered while evaluating pregnant women. Polymorphic eruption of pregnancy is most frequent pruritic dermatosis of pregnancy, followed by eczema of pregnancy; ICP is seen among a small population of the patients. However, there is a need for large, multicentre, randomized trials for further analysis.

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