Frequency of specific dermatoses of pregnancy in a tertiary care hospital

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Abstract

Objective To assess the frequency of specific dermatoses of pregnancy in a tertiary care hospital.

Patients and methods This cross sectional study was conducted on patients attending outpatient department of Dermatology, civil hospital, Karachi referred from the outpatient department of gynecology and obstetrics spanning, 1st May 2006 till 31st August 2006. Pregnant females of different age groups, both primigravida and multigravida fulfilling the selection criteria were enrolled. After an informed consent, selected patients were subjected to a detailed history and clinical examination. Diagnosis of the diseases was made clinically and relevant investigations were carried out where required.

Results 100 patients, comprising 32 primigravida (32%) and 68 multigravida (68%), diagnosed as suffering from specific dermatoses of pregnancy completed the study. Minimum age of presentation was 20 years and maximum 44 years the mean age being 32±6.8 years. Prurigo of pregnancy (96%) was the most common dermatoses seen followed by pruritic folliculitis of pregnancy (2%), herpes gestationis (1%) and polymorphic eruption of pregnancy (1%). Amongst 96 patients (96%) suffering from prurigo of pregnancy, there were 28 primigravida (29%) and 68 multigravida (71%). Both the primigravida with pruritic folliculitis of pregnancy presented one each in the 2nd and 3rd trimester. Patients suffering from herpes gestationis and polymorphic eruption of pregnancy (PUPP) were primigravida presenting in 2nd trimester.

Conclusion Specific dermatoses of pregnancy can present in any trimester. Prurigo of pregnancy remains the most common disorder followed by pruritic folliculitis of pregnancy.

Key words Specific dermatoses of pregnancy, prurigo of pregnancy, pruritic folliculitis of pregnancy, herpes gestationis, polymorphic eruption of pregnancy.

Introduction

Pregnancy is a physiological state leading to changes of skin and appendages which may become pathological when severe. These physiological skin changes occur due to temporary shift in hormonal, metabolic and immunological factors. These conditions are generally benign, but they cause substantial anxiety in pregnant women. The dermatoses of pregnancy can be classified into 3 groups i.e. physiological skin changes in pregnancy, dermatoses and cutaneous tumors affected by pregnancy and specific dermatoses of pregnancy. Specific dermatoses of pregnancy describe those conditions which result from the state of gestation or the products of conception. The group includes: herpes gestationis, pruritic urticarial papules and plaques of pregnancy, prurigo of pregnancy and pruritic folliculitis of
pregnancy. These pregnancy associated specific dermatoses are rare, but may cause significant distress and harm to both mother and the fetus. Therefore, early diagnosis, prompt treatment, and close obstetric surveillance are mandatory in these cases. Specific dermatoses of pregnancy usually, but not always, resolve after delivery.

Herpes gestationis has an incidence of approximately 1 in 10,000 pregnancies having onset usually about 21st week of gestation but in 20% cases, the eruption appears immediately postpartum. The disease usually begins with urticular papules and plaques around umbilicus and extremities. Lesions tend to spare face, palms, and soles. In about 75% of cases, herpes gestationis flares around the time of delivery, regressing spontaneously after the baby is born. Pruritic urticarial papules and plaques of pregnancy now called as polymorphic eruption of pregnancy is a pruritic, inflammatory skin disorder seen in anywhere from 1 in 120 to 1 in 240 pregnancies. It starts in 2nd or 3rd trimester (mean onset, 35 weeks) in 1st pregnancy. The eruption is polymorphic comprising intensely itchy urticarial, vesicular, purpuric, polycyclic or targetoid lesions. The risk for fetal mortality and morbidity is not high. Pruritic folliculitis of pregnancy has variable frequency as some sources report less than 30 cases in all the literature, while others indicate that the prevalence is 1 in 10,000 pregnancy. Pruritic folliculitis of pregnancy presents as perifollicular papules and pustules starting on abdomen and spreading to the extremities. The condition is often, but not always, pruritic and patients are more concerned rather than being distressed by the symptoms. Pruritic folliculitis of pregnancy has a frequency of 1 in 450 pregnancies. Prurigo of pregnancy has been reported to be the most common specific dermatoses of pregnancy in literature. Kroumpouzos and Cohen have also described atopy as an etiological factor for prurigo of pregnancy.

Data regarding specific dermatoses of pregnancy in our community are insufficient. Current study was designed to assess the frequency of specific dermatoses of pregnancy in a tertiary care hospital so that any devastating complication can be prevented in affected mothers and the baby. Patients and methods

The cross-sectional study was conducted on patients attending outpatient department of Dermatology, Civil Hospital, Karachi referred from the outpatient department of gynecology and obstetrics. The study was completed over a period of 4 months spanning from 1st May 2006 till 31st August 2006. Pregnant females of different age groups, both primigravida and multigravida, were enrolled for the study. Patients having physiological dermatoses or dermatoses which flare up during pregnancy were excluded. Patients suffering from any other dermatological or systemic diseases were also ruled out. Patients taking any medication for any other underlying illness during pregnancy or on hormonal therapy were also excluded.

After an informed consent, selected patients were subjected to a detailed history including parity, gestational age and any cutaneous eruption in the current pregnancy, as well as, its duration. Past history of similar eruption and any relevant family history of similar eruption were also explored. A detailed clinical examination was done. Diagnosis of the diseases was made clinically and biopsy was performed in doubtful cases. Any relevant investigations were carried out e.g. lipid profile and liver function tests.
Table 1: Age distribution (n=100).

<table>
<thead>
<tr>
<th>Age</th>
<th>N (%)</th>
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<tbody>
<tr>
<td>20-30 years</td>
<td>30 (30)</td>
</tr>
<tr>
<td>31-40 years</td>
<td>41 (41)</td>
</tr>
<tr>
<td>41-44 years</td>
<td>29 (29)</td>
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</tbody>
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Table 2: Frequency of specific dermatoses (n=100).

<table>
<thead>
<tr>
<th>Dermatosis</th>
<th>N (%)</th>
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</thead>
<tbody>
<tr>
<td>Prurigo of pregnancy</td>
<td>96 (96)</td>
</tr>
<tr>
<td>Pruritic folliculitis of pregnancy</td>
<td>02 (2)</td>
</tr>
<tr>
<td>Pemphigoid gestationis</td>
<td>01 (1)</td>
</tr>
<tr>
<td>Polymorphic eruption of pregnancy</td>
<td>01 (1)</td>
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where required to rule out other causes of pruritus.

The findings were recorded on a predesigned pro forma. All the findings were compiled, tabulated and analyzed using the software SPSS using the percentages of variables like age, parity and gestational age. No statistical test of significance was applicable for this descriptive study.

Results

A total of 100 patients, comprising 32 primigravida (32%) and 68 multigravida (68%), diagnosed as suffering from specific dermatoses of pregnancy completed the study. Minimum age of presentation was 20 years and maximum 44 years, the mean age being 32±6.8 years. Table 1 reveals the different age groups. Parity of patients ranged between 0-6.

Table 2 shows the frequency of specific dermatoses of pregnancy. Prurigo of pregnancy (96%) was the most common dermatosis seen followed by pruritic folliculitis of pregnancy (2%) while herpes gestationis and polymorphic eruption of pregnancy (PUPP) were respectively seen in 1 patient each. Amongst 96 patients (96%) suffering from prurigo of pregnancy there were 28 primigravida (29%) and 68 multigravida (71%). Predominant lesions included excoriations followed by nodules and papules. All the patients with prurigo of pregnancy had positive personal or family history of atopy, while (85%) had elevated serum IgE level.

Both the primigravida with pruritic folliculitis of pregnancy presented one each in the 2nd and 3rd trimester. The patient suffering from herpes gestationis was a primigravida and presented in 2nd trimester. The only lady with polymorphic eruption of pregnancy (PUPP) was also a primigravida presenting in 2nd trimester.

Discussion

Our study targeted to determine the frequency of specific dermatoses of pregnancy irrespective of the three trimesters. The study also highlights the frequency in association with variables like age, gestational age, parity, history of similar eruption in their previous pregnancies and family history. The results of our study cover percentages only among the patients with specific dermatoses.

Prurigo of pregnancy (96%) was the most common dermatoses seen followed by pruritic folliculitis of pregnancy (2%) while herpes gestationis and polymorphic eruption of pregnancy (PUPP) were seen in 1 patient each.

Prurigo of pregnancy is the most common specific dermatosis of pregnancy in literature. A frequency of 96% for prurigo of pregnancy in our study is markedly higher than that reported (2.5%) by Masood et al. who have also noted prurigo of pregnancy to be the most common specific dermatoses of pregnancy. Ahmedi and Powell the contrary, have reported polymorphic eruption of pregnancy to be the most common. Likewise, Rashmi has also claimed polymorphic eruption of pregnancy as the most common specific dermatoses.
associated with pregnancy. However, the results can vary from one study to another depending upon the setting and design. Masood et al.\textsuperscript{4} reported prurigo of pregnancy to be more common in multigravida, a finding consistent with our study. Other studies have also suggested prurigo of pregnancy to be the most common specific dermatoses seen in pregnancy.\textsuperscript{20,21} In the study mentioned, all the enrolled patients were in 3\textsuperscript{rd} trimester. Our patients presented in 2\textsuperscript{nd} as well as 3\textsuperscript{rd} trimesters, although, prurigo of pregnancy has been reported in all the trimesters.\textsuperscript{19} All the enrolled patients with prurigo of pregnancy had a personal or family history of atopy, while (85%) had elevated serum IgE level. Masood et al.\textsuperscript{4} have reported only one of their patients to be suffering from an atopic disorder i.e. asthma. Workers have reported increased serum level of IgE in majority of their patients with prurigo of pregnancy.\textsuperscript{22} Therefore, the finding in our study is quite consistent with the previous reports in literature.\textsuperscript{4,22} Kroumpouzos and Cohen\textsuperscript{10,23} have also described atopy as an etiological factor for prurigo of pregnancy.

Pruritic folliculitis of pregnancy (2\%) was next in frequency to prurigo of pregnancy in our study. Patients with pruritic folliculitis presented with generalized red follicular itchy papules distributed on the abdomen and the limbs.\textsuperscript{3,18} Roger et al.\textsuperscript{24} have also reported it as a rare specific dermatoses associated with pregnancy. Masood et al.\textsuperscript{4} reported a slightly lower frequency and all the patients were multigravida presenting in the 3\textsuperscript{rd} trimester. Similarly, Ambros-Rudolph et al.\textsuperscript{13} reported a further lower frequency of the disease in a comparable study. However, both our patients were primigravida but one was in 2\textsuperscript{nd} and the other in 3\textsuperscript{rd} trimester. Roger et al.\textsuperscript{24} have also reported their similar set of patients (all primigravida) to present in 2\textsuperscript{nd} and 3\textsuperscript{rd} trimester. Therefore, our findings are at par with the reports in literature.\textsuperscript{24} On the other hand, Masood et al.\textsuperscript{4} had all their enrolled patients in 3\textsuperscript{rd} trimester.

The only patient suffering from herpes gestationis in our study was a primigravida and presented in the 2\textsuperscript{nd} trimester. Masood et al.\textsuperscript{4} found no patient with herpes gestationis in their study. Our study targeted patients with specific dermatoses of pregnancy in all the three trimesters of pregnancy in contrast to Masood et al.\textsuperscript{4} where study included patients only in the 3\textsuperscript{rd} trimester. Ambrose-Rudolph et al.\textsuperscript{13} reported a higher frequency i.e. 4.3\% in a similar series of patients. On the contrary, Muzaffar et al.\textsuperscript{21} reported a frequency much higher then that in our study i.e. 20\%. Roger et al.\textsuperscript{24} reported a frequency of 12.3\%, which is less then that reported by Muzaffar et al.\textsuperscript{21} However, the results of different studies, can vary depending upon the study design and setting. Herpes gestationis although rare, has been reported in national and international literature from time to time.\textsuperscript{25,26} Herpes gestationis is a rare autoimmune disorder, begins in the second or third trimester and requires antenatal surveillance for its lethal complications in the fetus and a tendency to relapse in subsequent pregnancies.

The only lady with polymorphic eruption of pregnancy (PUPPP) was a primigravida presenting in the 2\textsuperscript{nd} trimester. Masood et al.\textsuperscript{4} have reported a slightly high frequency in a similar set of patients i.e. 2.5\% and all the patients were primigravida. However, their study aimed to determine the frequency only in 3\textsuperscript{rd} trimester. Samdani\textsuperscript{20} and Roger et al.\textsuperscript{24} reported polymorphic eruption of pregnancy to be the most common pregnancy associated dermatoses with a frequency as high as 38\% and 44\% respectively. On the other hand, Ambrose-Rudolph et al.\textsuperscript{13} have also reported a frequency
of 22% as far as polymorphic eruption of pregnancy is concerned. Ahmedi and Powell\textsuperscript{18} and Rashmi\textsuperscript{19} also claimed polymorphic eruption of pregnancy to be the most common specific dermatoses of pregnancy. However, study design and setting can influence the results of different studies. Therefore, polymorphic eruption of pregnancy remains an important member of the group of disorders.\textsuperscript{27,28}

The short duration of our study limits its significance because most of the other studies were of long durations. Large scale studies are recommended to substantiate the findings of these types of studies. Moreover, fetal outcome should be assessed in every patient with specific pregnancy associated dermatoses during a particular pregnancy to see its potential effects subsequently.

**Conclusion**

Prurigo of pregnancy remains the most common disorder followed by pruritic folliculitis of pregnancy. Herpes gestationis and polymorphic eruption of pregnancy are seen less frequently. Awareness of pregnancy related skin changes can facilitate improved care of pregnant women by identifying those skin changes that require further evaluation. We recommend that these patients should be followed up during pregnancy as well as after delivery to see resolution of symptoms and any foetal complications.

**References**