

THE IMPORTANCE OF THE PRESENCE/ABSENCE OF STRIAE GRAVIDARUM DURING THE CLINICAL AND THERAPEUTICAL EVOLUTION OF PATIENTS WITH POLYMORPHIC ERUPTION OF PREGNANCY

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REZUMAT

Scopul studiului: Eruptia polimorfă de sarcină se asociază frecvent cu prezența de striae gravidarum. Scopul studiului reprezintă observarea unor relații între prezența/absența striae gravidarum și evoluția clinică și terapeutică a pacienților. **Material și metode:** În studiu au fost incluse 34 de gravide cu diagnosticul clinic de erupție polimorfă de sarcină. Au fost urmăriți diverși parametri clinici. **Rezultate:** Vârsta medie a sarcinii la debutul erupției polimorfe a fost de 25,41 săptămâni (DS = 1,86 săptămâni). La cele mai multe gravide (51,2%) erupția a debutat în trimestrul trei de sarcină. Prezența de striae gravidarum a fost observată la un număr de 24 gravide (70,6%). **Concluzii:** Eruptia polimorfă de sarcină apare de obicei la primipare și în al treilea trimestru de sarcină. Dermatoza tinde să debuteze în cursul sarcinii, la femeile care au un câștig ponderal mare (> 15 kg), acesta fiind corelat cu prezența de striae gravidarum. Prezența acestora influențează negativ răspunsul la tratament și intensitatea pruritului. Localizarea leziunilor se observă de obicei pe abdomen și membre, aceasta fiind o localizare predilectă și pentru striae gravidarum. Răspunsul la tratament nu pare să depindă esențial de tipul de tratament aplicat, un rol important avându-l prezența/absența de striae gravidarum.

Cuvinte cheie: dermatoze specifice de sarcină, striae gravidarum, erupție polimorfă de sarcină

ABSTRACT

Objective: The polymorphic eruption of pregnancy (PEP) is frequently associated with the presence of striae gravidarum. The purpose of this study is to observe the relation between the presence/absence of striae gravidarum and the clinical and therapeutical evolution of patients with PEP. **Material and methods:** In this study a number of 34 pregnant women with the diagnosis of PEP were taken under observation. Several clinical parameters were studied. **Results:** The average of weeks of pregnancy at PEP onset was of 25.41 weeks of pregnancy (SD = 1.86 weeks of pregnancy). In most of the pregnant women (51.2%) the eruption onset was in the third trimester of pregnancy. The presence of striae gravidarum was observed in 24 pregnant women (70.6%). **Conclusions:** The polymorphic eruption of pregnancy usually appears at primigravidae and in the third trimester of pregnancy. This dermatosis usually appears, during pregnancy in women with excessive maternal weight gain (>15kg), which is correlated with the presence of striae gravidarum. The presence of striae negatively influences the treatment result and the itch intensity. The localization of the lesions is usually observed on abdomen and limbs, this kind of localization being typical for striae gravidarum. The treatment response does not seem to depend essentially on the type of the received treatment, a potential important role having the presence/absence of striae gravidarum.

Key Words: specific dermatoses of pregnancy, striae gravidarum, polymorphic eruption of pregnancy

INTRODUCTION

The polymorphic eruption of pregnancy (PEP) is a pruritic inflammatory disorder of pregnancy. It is benign and self-limiting and usually appears during the last trimester of pregnancy. This condition was

known as toxæmic rash of pregnancy, prurigo of late pregnancy, toxæmic erythema of pregnancy or pruritic urticarial papules and plaques of pregnancy (PUPPP).¹ The term PEP is used in Europe and the term PUPPP in USA, both representing the same dermatosis.¹

PEP is known as the most frequent specific dermatosis of pregnancy, with an incidence of 1:160-240 pregnancies in some studies or 1:150-200 in others.^{2,3} In the classification of specific dermatoses of pregnancy other disorders are also included: pemphigoid gestationis (herpes gestationis), pruritic folliculitis of pregnancy and prurigo of pregnancy.⁴

The polymorphic eruption of pregnancy is frequently associated with the presence of striae gravidarum.⁵⁻⁷ The purpose of our study is to observe some correlations between the presence/absence of

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striae gravidarum and the clinical and terapeutical evolution of patients with polymorphic eruption of pregnancy.

MATERIALS AND METHODS

Starting from November 2003, we selected a series of data from the registers of 'Dumitru Popescu' Gynecology and Obstetrics Clinical Hospital from Timisoara, of the Dermatology-Venerology Clinic from Timisoara. Moreover, the data was also selected from the outpatients registers of these institutions, as well as from the registers of 'Dermadent' medical praxis (Professor V. Feier, M.D., PhD). The study is ongoing, the observation of newly diagnosed cases being done interdisciplinary. A first evaluation of the study results has been already published.⁸

In this study, a number of 34 pregnant women with the diagnosis of polymorphic eruption of pregnancy were recruited. For each patient we recorded: age, pregnancy age at the disease's onset (in weeks), weight before pregnancy, present weight (normal vs. excessive, i.e. > 15kg according to obstetric guidelines), abdominal circumference (cm), presence/absence of striae gravidarum, number of fetuses at the actual pregnancy, eruption's onset, lesions localization, the itch intensity (moderate or severe), the pregnancy evolution till the apparition of symptoms, prescribed treatment, treatment result (good or excellent).⁹

The data was statistically processed and the following parameters were computed:

1. Type of data distribution: the normality test (Liliefors test) established that the data has a normal distribution;

2. Statistical descriptive data: frequency expressed in numbers and percentage; statistical average and deviation.

3. The comparison of frequencies χ^2 test was used for qualitative data, while for quantitative data the Pearson correlation test was computed to verify the statistical signification of association of several variations and T (Student) test with an alignment variation was used to compare the averages between the variations from groups.

RESULTS AND DISCUSSIONS

The average age of pregnant women with polymorphic eruption of pregnancy from the total group was 25.94 years (SD = 6.48 years, range: 20-37 years). Most of the pregnant women were between 26 and 30 years (61%), 15% were between 20 and 25

years, 15% between 31 and 35 years, and 9% between 36 and 40 years.

The average age of pregnancy at disease onset was 25.41 weeks (SD = 1.86 weeks, range: 23-28 weeks). In most pregnant women (51.2%) the eruption onset was in the third trimester of pregnancy (≥ 27 weeks of pregnancy), while in the rest the eruption started in the last weeks of the second trimester of pregnancy (23-26 weeks of pregnancy).

Most women (91.2%) had one fetus, echographically visualized, and only 3 (8.8%) had two fetuses.

The difference between the weight prior to pregnancy and the weight of the pregnant women at PEP onset was calculated. It was noted that the pregnant women had gained weight, on average 18.3 kg (SD 9.3 kg) from the beginning of the pregnancy till the PEP onset moment (range: 6-29 kg).

As the medical literature describes a higher incidence of PEP onset in women with excessive maternal weight gain, correlations between the age of the pregnancy at the eruption onset and the weight of the pregnant woman at the diagnosis were assessed ($R = 0.84$, $p < 0.05$) and proved statistically significant.¹⁰⁻¹² This shows that the disease onset is sooner during pregnancy in women with higher maternal weight gain, the onset being correlated with the presence of striae gravidarum.

Furthermore, a statistically significant inverse correlations was found between the pregnancy age at eruption onset and age of pregnant woman ($R = -0.77$; $p < 0.05$) meaning that the symptoms of PEP appear sooner during pregnancy (23-26 weeks of pregnancy) if the age of the pregnant woman is higher (> 30 years of age). Furthermore, inverse correlation was found between the pregnancy age at eruption onset and treatment response ($R = -0.73$, $p < 0.05$), meaning that the response is better if the disease appears sooner during pregnancy (23-26 weeks of pregnancy).

The presence of striae gravidarum was observed in a number of 24 pregnant women (70.6%). For this parameter, the T test with an alignment of presence/absence of striae gravidarum fluctuation was applied. (Table 1)

The difference between women with without striae gravidarum revealed that the most important factor favoring the appearance of striae gravidarum seems to be the maternal weight gain during pregnancy (> 15 kg) and the abdominal circumference (mean 124.9 cm). In our group, women with striae gravidarum have lower age (22.2 years versus 34.9 years) and an excessive maternal weight gain (> 15 kg) from the start of pregnancy onset till the eruption onset.

Table 1. Correlations between several parameters and the presence/absence of striae gravidarum.

Variable	Mean for the group without striae	Mean for the group with striae	The statistical difference between means (t)	Statistical significance
Pregnant women's age	34.9	22.2	12.09	p = 0.01 statistically significant
Abdominal circumference (cm)	101.3	124.9	-3.97	p = 0.01 statistically significant
Pregnancy age (in weeks)	26.1	35.04	-5.56	p = 0.01 statistically significant
Pregnancy age at the eruption's onset	23.8	26.8	-3.89	p = 0.01 statistically significant
Maternal weight gain	7.1	22.9	-7.2	p = 0.01 statistically significant

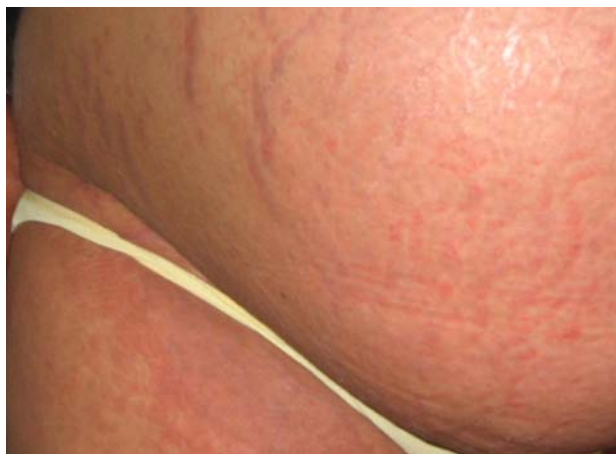


Figure 1. The polymorphic eruption of pregnancy - primigravida, third trimester of pregnancy. It can be observed the presence of urticarial plaques localized on the abdomen and limbs; the lesions are intensely itchy; on the abdomen we can see the presence of striae gravidarum.



Figure 2. Polymorphic eruption of pregnancy - primigravida. It can be observed the localization of the lesions especially on abdomen and limbs, the presence of striae gravidarum and an significant excessive maternal weight gain.

Moreover, the presence of striae gravidarum seems to negatively influence the treatment response, quantified as good or excellent. The comparison of frequencies χ^2 test showed that most of the pregnant women with striae gravidarum had good treatment result (not excellent), and the majority of women without striae had excellent treatment response, the statistical difference being significant ($\chi^2 = 25.10$; $p = 0.01$). It was also observed that women without striae had a moderate subjective discomfort, the statistical difference being significant ($\chi^2 = 15.98$; $p = 0.01$). This leads to the conclusion that the itch intensity is also influenced by the presence/absence of striae gravidarum. The itch intensity was quantified as moderate or severe. From the 24 patients with striae gravidarum, a number of 18 pregnant women had severe itch compared with none from the group without striae gravidarum.

According to our results, the itch intensity is higher if the abdominal circumference is larger ($R = 0.93$; $p < 0.05$).

It was observed that the majority of the women (52.9%) complained of severe itch. A statistical correlation between the localization of lesions from the polymorphic eruption of pregnancy and the itch intensity was investigated. The typical localization of the PEP lesions is on the trunk, abdomen and limbs, the condition usually spares the periumbilical region, face, palms and soles.¹³ In our study, all pregnant women who complained of severe itch had a localization of the eruption on the abdomen and limbs (the typical localization for striae gravidarum), the statistical difference being significant ($\chi^2 = 34.00$; $p = 0.01$).

A statistically significant inverse correlations was also found between the age of pregnant women and the itch intensity, showing that the pregnant woman had a moderate itch at onset if she was older (> 30 years) ($R = -0.86$; $p < 0.05$).

The correlations made between the lesions localization from the polymorphic eruption of

pregnancy and treatment result show that only the women with the localization on trunk had an excellent treatment result, the statistical difference being significant ($\chi^2 = 34$, $p = 0.01$).

However, the study has showed that the treatment result does not seem to essentially depend on the type of treatment applied ($\chi^2 = 3.21$, $p = 0.07$).

The treatment applied for the polymorphic eruption of pregnancy consisted of local corticosteroids (Advantan) and non-sedate oral antihistamines (Aerius). The administration of non-sedate oral antihistamines was preferred due to the advanced pregnancy age. The majority of the pregnant women from our group (76.5%) were treated with Advantan and the rest (23.5%) were treated with a combined treatment Advantan + Aerius. It was observed that the treatment is less effective if the itch is more severe, so the treatment result is inverse correlated with the intensity of the itch ($R = -0.59$, $p < 0.05$).

It was observed that statistically significant correlations exist between treatment response and maternal weight gain during pregnancy; thus the treatment response at the onset is better if the maternal weight gain during pregnancy is lower ($R = -0.73$, $p < 0.05$).

In the study group we identified the following: primigravidae; the lack of diseases associated with pregnancy, a normal evolution of pregnancy until the moment of the symptoms' appearances, the lack of family antecedents.

CONCLUSIONS

1. The polymorphic eruption of pregnancy usually appears in primigravidae and in the third trimester of pregnancy.

2. The dermatosis has a frequent onset, during pregnancy, in women who have a bigger maternal weight gain (>15 kg), this being correlated with the presence of striae gravidarum.

3. The presence of striae and the itch intensity negatively influences the treatment response.

4. The treatment response is better if the maternal weight gain during pregnancy is smaller (<15 kg), this being correlated with the absence of striae gravidarum.

5. The itch intensity is higher if the abdominal circumference is larger (with an average of 124.9 cm). The localization of the lesions is usually observed on abdomen and limbs, this being a typical localization also for striae gravidarum.

7. The treatment response does not seem to depend on the type of treatment applied, an important role has the presence/absence of striae gravidarum.

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