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## Recommended Citation

Samdani, A. J. (2004). Pregnancy dermatoses: A three-year study. *Pakistan Journal of Medical Sciences*, 20(4), 292-295.

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## PREGNANCY DERMATOSES: A THREE-YEAR STUDY

Samdani AJ\*

### ABSTRACT

**Objective:** To determine the percentage occurrence, clinical features and the age distribution of pregnancy-related dermatoses in pregnant females who were referred from Maternity Hospital Makkah to dermatology department for management at King Abdul Aziz Hospital, Makkah, Saudi-Arabia.

**Methods:** Patients who attended the dermatology clinic at King Abdul Aziz Hospital, Makkah were examined clinically and appropriate laboratory evaluation was done to facilitate diagnosis. These cases were managed till the termination of pregnancy and 10 weeks follow up in the puerperium. This study lasted for a period of 03 calendar years.

**Results:** A total of 47 females were seen, with polymorphic eruption (PEP) being the most common (38.29%) of the pregnancy-related dermatoses followed by intra-hepatic cholestasis of pregnancy (25.53%), pemphigoid gestationis (19.14%), prurigo of pregnancy (8.51%), pruritic folliculitis (4.25%) and impetigo herpetiformis (4.25%). The age group most affected by these disorders was 21-30 years (42.55%), followed by 31-40 years (38.29%), < 20years(12.76%) and > 40 (6.38%).

**Conclusion:** Certain dermatoses are specifically seen in pregnancy or postpartum period. It is therefore important for the clinicians to recognize and treat these cutaneous disorders to minimize maternal and fetal morbidity.

**KEY WORDS:** Pregnancy dermatoses, Polymorphic eruption of pregnancy (PEP), Pemphigoid gestationis (PG), intrahepatic cholestasis of pregnancy (ICP).

Pak J Med Sci October-December 2004 Vol. 20 No. 4 292-295

### INTRODUCTION

Pregnancy is a time of immense hormonal, vascular and immunologic changes, which affects every organ of the body including skin.

Although the dermatoses of pregnancy are believed to be the direct result of gestation or the products of conception, they are classified as pathologic processes. Several skin disorders are aggravated during pregnancy while many others are induced by pregnancy; the latter represent the specific dermatoses of pregnancy. The main diseases observed in pregnant ladies were: (1) polymorphic eruption of pregnancy, (2) intrahepatic cholestasis of pregnancy, (3) pemphigoid gestationis, (4) prurigo of pregnancy (5) pruritic folliculitis of pregnancy and (6) Impetigo herpetiformis.

Inflammatory dermatoses specific to pregnancy have been reported under a variety of confusing names. Some have been characterized, and their clinical features, prognosis and effect on outcome of pregnancy are well

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\* Received for publication: May 4, 2004

Accepted: May 31, 2004

understood. The etiology of most of the dermatoses is still unknown but most probably are related to the hormonal changes and reaction to the product of conception.

### PATIENTS AND METHODS

This prospective study was carried out at the King Abdul Aziz Hospital, Makkah, Kingdom of Saudi-Arabia for a period of three years. The study included all the new cases having dermatologic complaints in pregnancy who attended the dermatology outpatients, as well as those referred or admitted as inpatients from the Maternity Hospital Makkah. The patients were examined by dermatology specialists and then seen by one consultant. The personal and clinical data pertaining to patients such as clinical features, exacerbating factors, distribution and sites of involvement were recorded, the age of onset of the disease was also recorded as shown in Table I & II.

Table-I: Percentage of different pregnancy related dermatoses

<i>Name of the Condition</i>	<i>Number of cases</i>	<i>Percentage</i>
Ploymorphic eruption of pregnancy (PEP)	18	38.29
Intra-hepatic cholestasis of pregnancy (ICP)	12	25.53
Pemphigoid Gestationis (PG)	09	19.14
Prurigo of pregnancy (PP)	04	8.51
Pruritic folliculitis of pregnancy	02	4.25
Impetigo herpetiformis	02	4.25
<b>TOTAL</b>	<b>47</b>	<b>99.97</b>

### RESULTS

A total number of 47 patients were seen at the dermatology clinic in a period of three years. The distribution of different pregnancy induced dermatoses and age of patients at presentation is summarized in Table-I. Polymorphic eruption of pregnancy was the most common clinical type (38.29%) followed by intra-hepatic cholestasis of pregnancy (25.53%), pemphigoid gestationis (19.14%), prurigo of pregnancy (8.51%), pruritic folliculitis of pregnancy & impetigo herpetiformis (4.25%). The breakup of dermatoses according to different age groups is shown in Table II.

### DISCUSSION

Studies on the incidence, prevalence and natural history of pregnancy-related dermatoses are limited. In this study the percentage occurrence, clinical features and the age distribution of pregnancy-related dermatoses seen over a three-year period is discussed. Polymorphic eruption of pregnancy (PEP) was found to be the commonest dermatoses of pregnancy (38.29%). Similar results have been observed in the past<sup>1</sup>. What causes this condition is still unknown, however it does not appear to be associated with an autoimmune disorder nor with a distinctive immunogenic profile. A relationship to skin distension has been proposed

Table-II: The age group distribution of various dermatoses

<i>Age group (Years)</i>	<i>Number of cases</i>	<i>Percentage</i>
< 20	06	12.76
21-30	20	42.55
31-40	18	38.29
> 40	03	6.38
<b>Total</b>	<b>47</b>	<b>99.98</b>

due to the higher prevalence of it in multiple gestations and in women with increased weight gain during pregnancy<sup>2</sup>. Because of this observation, one hypothesis suggests that abnormal skin distention resulting in skin damage may play a role in the development of PEP, or the condition may represent a cutaneous response to the presence of circulating fetal cells that have invaded maternal skin<sup>3</sup>. Laboratory investigations in cases examined and managed by us did not reveal any hormonal abnormalities. The affected patients were mostly primigravida in their third trimester of pregnancy, and presented with intensely pruritic papules and plaques, beginning the abdominal striae which then slowly spread to the rest of the body, involving the chest, buttocks and thighs. The periumbilical region, face, palms, and soles were usually spared. Diagnosis was mostly clinical. Clearing of the disease after puerperium also confirmed the diagnosis of PEP.

Intrahepatic cholestasis of pregnancy (ICP) was found to be the next most common condition associated with pregnancy (25.53%). The reason for its high incidence was that more than fifty percent cases belonged to expatriate population from the Indian Sub-continent and Far East, who have a higher incidence of Hepatitis C. Hepatitis C serology was positive in 72% of the cases hence suggesting a strong link with Hepatitis C. An association of this condition with Hepatitis C has recently been identified<sup>4,5</sup>. The other causes of cholestasis being maternal intrahepatic bile secretory dysfunction. This disease is characterized by intense pruritus that usually begins in the third trimester. This pruritus although constant in nature, but many patients complain of worsening at night and being most severe on the palms and soles. Excoriations were the only cutaneous finding involving different parts of the body such as the abdomen and back. Laboratory findings included a slightly elevated transaminase levels, while alkaline phosphatase level was relatively higher, the reason being the contribution of alkaline phosphatase from the placenta. Although the characteristic of the sampled population and methods of evaluation might vary

in different studies the different results in this study may emphasize the multifactorial etiologies, and the high incidence and prevalence of the Hepatitis C as an etiological factor in this condition.

Pemphigoid Gestationis accounted for 19.14% of cases. Also known as herpes gestationis (HG) it is an antibody-mediated, organ-specific autoimmune disorder. This condition bears no relationship to herpes simplex virus, but is so called due to herpes-like nature of the blisters. It is usually under-diagnosed, especially if skin biopsy and direct immunofluorescence studies are not carried out<sup>6</sup>. The patients presented with sudden eruption of vesiculobullous lesions, initially occurring around the umbilicus and then spreading to other parts of the body. At this stage, it is very difficult to distinguish this disease from PEP. The lesions then progress to a generalized bullous eruption that usually spares the face, mucous membranes, palms and soles<sup>7</sup>. In this study one case had involvement of the face, while another had two vesicles on the right palm. The skin eruption is pruritic and may be associated with extensive erosions and exfoliation. The disease often resolves during the latter part of pregnancy, and flares up at delivery or immediately postpartum in more than 60% of cases; 25% of cases appear for the first time after delivery. It can be confirmed by skin biopsy and immuno-fluorescence studies. Direct Immuno-fluorescence (DIF) is the most sensitive and specific assay for differentiating PG from PEP. Out of the 09 cases observed, seven required histological and immunofluorescence studies to substantiate the clinical diagnosis, while two had classical clinical features and did not require these procedures. Typically, PG regresses without scarring, a few weeks after delivery. Most of the cases diagnosed resolved within a month after delivery except one patient who had of itching upto 10 weeks after delivery.

Prurigo of pregnancy (PP) is rare (8.51%) and can be seen at any time of gestation. It presented as discrete, excoriated papules, located predominantly over the extensor aspects

of the limbs, shoulders, and abdomen. The lesions continued throughout pregnancy and in the peripartum. Three out of four pregnant patients with this condition had an atopic background, and these were associated with increased serum levels of immuno-globulin E (IgE) supporting the notion that it may represent a gestational variant of atopic dermatitis occurring as a result of common pruritus gravidarum. Similar results have been reported in the past<sup>8</sup>. The histopathology was non-specific in this condition.

Pruritic folliculitis of pregnancy was seen in only (4.25%) of the women who presented with generalized red, follicular papules. These were distributed on the chest, back and most cases had extensive superimposed secondary infection, which resolved within three weeks after delivery. This disorder is seen in the 1st or 2nd trimester of pregnancy and sometimes the lesions resemble those of monomorphic acne, usually resolving within 2 weeks of delivery<sup>8,9</sup>. There is no evidence of immunologic or hormonal abnormalities in this condition Histologically; the condition is characterized by sterile folliculitis<sup>10</sup>.

Impetigo herpeticiformis is a severe form of pustular psoriasis in pregnancy. It has a febrile onset with grouped pustules on an erythematous base, which begin in the flexures e.g. groin, axilla and neck. The condition resolves with delivery but recurrences may occur with subsequent pregnancies. In this study both the cases were multigravida.

The maximum incidence of pregnancy related dermatoses was seen in the age group 21-30 years (42.55%) followed by 31-40 years (38.29%) Table II. One of the reasons for dermatoses in the younger age group could be due to the cultural reasons in this part of the world where early marriage is common. The second age group with a high incidence was between 31-40 years which was in line with the observations of other studies. Although the characteristics of the sampled population and methods of evaluation are different in various studies the different results observed in this study were due to multiple factors such as, cultural

customs prevalent in this part of the world and the sample population in the study belonging to different ethnic background and nationalities.

## CONCLUSION

These pruritic dermatoses are unique to the gravid state. A detailed history and awareness of clinical presentation to the physicians will facilitate early recognition, confirmation of the diagnosis, appropriate laboratory investigations and careful management which would thus help to minimize maternal and fetal morbidity.

## ACKNOWLEDGEMENT

I wish to thank Dr. Tania Azam for her kind cooperation and expert assistance throughout this project.

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