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### **Impetigo Herpetiformis: A Case Report and Review of literature**

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### **Abstract**

Impetigo herpetiformis is a rare life threatening pustular dermatoses of pregnancy. The aetiology is unclear but is usually steroid responsive. A case of impetigo herpetiformis in a multiparous 43 year old Iban lady in her 29 weeks of gestation is presented. She responded to topical corticosteroids initially but recurred postpartum, only to respond to Acitretin.

## Introduction

Impetigo herpetiformis is a rare pustular dermatoses of pregnancy. First described by Hebra in 1872<sup>[1]</sup>, there is still controversy in its classification. Some classify it as generalised pustular psoriasis of pregnancy<sup>[2]</sup> while others consider it as a distinct entity from psoriasis<sup>[3]</sup>. An early diagnosis is essential as the condition is life threatening and is associated with placental insufficiency and electrolytes abnormalities.

It is rarely seen in Malaysia. A case of impetigo herpetiformis in a 43 year old Iban lady in her early third trimester is reported.

## Clinical Synopsis

A multiparous 43 year old Iban (indigenous people of Borneo) lady in her 29 weeks of gestation presented with 1 week history of pruritic erythematous patches and plaques with grouped pustules. It started from the axillary region and later spread to the whole body involving the face but sparing the palmoplantar areas. Her pregnancy was complicated with gestational diabetes mellitus 2 weeks before presentation and was on subcutaneous Actrapid. She denied any systemic symptoms.

She has no personal and family history of psoriasis. She was on iron and folate supplements since early pregnancy. She had applied traditional medications few days after the eruption with no improvements.

Physical examination revealed a healthy looking afebrile Iban lady with erythematous plaques with grouped pustules, scales,

desquamation and overlying crusts distributed on the face, trunk, arms, legs, dorsal hands and buttock {Figures 1-2}.



Figure 1: Erythematous patches and plaques with grouped pustules, scaling and crusts on the chest, neck and upper extremities.



Figure 2: Erythematous patches and plaques with grouped pustules and scales on the back.

All the blood investigations including calcium level were normal. The culture from the pustules was sterile. Histology of the skin revealed focal parakeratosis with neutrophilic collection in the keratin layers and upper dermal perivascular and interstitial lymphocytic infiltrates consistent with pustular psoriasis. Based on the typical clinical features, sterile pustules and histopathological findings, she was diagnosed to have impetigo herpetiformis.

She was admitted and commenced on topical mometasone furoate for the face and topical betamethasone valerate 0.1% for the trunk and extremities. However, she developed stinging and itching to mometasone furoate and was changed to betamethasone valerate 0.05%. She responded to the topical corticosteroids within 2 week of therapy. She was discharged well with minimal scaling of her skin.

She remained well on the topical corticosteroids and gave birth to a 1.6 kg healthy baby girl at 34 weeks gestation. She had recurrence of her disease 3 weeks postpartum and was controlled with Acitretin orally.

## Discussion

Impetigo herpetiformis is a pruritic sterile pustular dermatoses commonly seen in the third trimester of pregnancy. It is also seen during puerperium and non pregnant women <sup>[4]</sup>. It can recur in subsequent pregnancies <sup>[5]</sup>. The aetiology is unknown. Triggering factors includes hypocalcaemia, hypoparathyroidism <sup>[6]</sup>, stress <sup>[5]</sup> and bacterial infection. There is a suggestion that it is related to generalized pustular psoriasis of pregnancy <sup>[2]</sup>. However, most of the patients do not have a personal and family history of psoriasis.

The formation of the pustules could be related to imbalance of the skin elastase and its inhibitors as a result of low levels of skin derived antileucoproteinase (SKALP) <sup>[7]</sup>.

Impetigo herpetiformis is a rare disorder. It is seen in 4.25% of pregnancy dermatoses in Saudi Arabia over a 3 year period <sup>[8]</sup>. The eruption typically begins in the intertriginous areas and extends centrifugally. The lesions are erythematous patches or plaques with grouped sterile pustules and peripheral scaling. Systemic symptoms including fever, sweating, diarrhoea, vomiting, delirium and tetany can occur <sup>[9]</sup>. Complications include fluid and electrolytes abnormalities, sepsis, hypocalcaemia and placental insufficiency resulting in intrauterine growth retardation, stillbirths and neonatal deaths <sup>[10]</sup>.

The laboratory findings include leukocytosis, elevated erythrocyte sedimentation rate, hypocalcaemia, hypoalbuminaemia and low parathyroid hormone level. The pustules are sterile but can be secondarily infected <sup>[10]</sup>.

The histopathological findings are similar to pustular psoriasis consisting of parakeratosis, acanthosis, subcorneal and intraepidermal spongiform pustules containing neutrophils, and papillary dermal infiltration of lymphocytes and neutrophils <sup>[6, 9, 10]</sup>.

The diagnosis is established by the typical clinical picture, sterile pustules with negative bacteriology test and typical histopathological changes on skin biopsy. The differential diagnoses include subcorneal pustular dermatoses, dermatitis herpetiformis, herpes gestationalis and impetigo contagiosa <sup>[10]</sup>.

Impetigo herpetiformis can usually be successfully treated with topical and systemic corticosteroids. Antibiotics may be indicated for secondary bacterial infection. Fluid and electrolytes especially calcium should be monitored and normalized <sup>[9]</sup>. Unresponsive cases can be given cyclosporine <sup>[11]</sup>, narrowband ultraviolet B (NBUVB) <sup>[12]</sup>, psoralen ultraviolet A (PUVA) <sup>[13]</sup>, clofazimine <sup>[14]</sup> or induction of early delivery <sup>[9]</sup>. During the postpartum period, oral retinoid can be given <sup>[15]</sup>. Treatment is imperative due to the life threatening nature of the disease <sup>[10]</sup>.

The patient presented had typical clinical and histopathological features of impetigo herpetiformis. She responded to Acitretin postpartum.

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