

Views and Practice

A case of rosacea fulminans in a pregnant woman

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Introduction

Rosacea fulminans (RF) is a rare type of inflammatory dermatosis that predominantly affects healthy young women.¹ It typically manifests as a sudden onset of prominent erythema, pustules, cysts, and sinuses involving the face.² Systemic symptoms are often absent.² The aetiology of RF is unclear, but hormonal factors, such as pregnancy and oral contraceptive use, as well as immunological, vascular, and emotional factors, are considered possible causes.³

Case report

A 32-year-old primiparous woman with a pregnancy of 18 weeks presented with a painful erythematous patch, as well as numerous pustules and cystic nodules, on her face. The skin lesions started in week 6 of pregnancy. The pustules had been extracted and she had been

using topical mupirocin ointment for the previous three months, but the lesions had gradually worsened. She had no constitutional symptoms and no previous history of dermatological disease, such as acne vulgaris, rosacea, or seborrhoeic dermatitis

Physical examination revealed tender erythematous patches and confluent cystic nodules on her face (Figure 1). Other regions of the body were not affected. Laboratory test showed a slightly increased C-reactive protein level of 2.49 mg/dL, and an increased total immunoglobulin E level of 410.4 IU/ml. The values of all other tests were within normal limits, including liver and renal function tests. Gram staining of the pustules revealed the presence of gram-positive cocci and gram-negative rods, but cultures were negative for all organisms. Histopathological examination showed spongiotic neutrophilic aggregation in the epidermis and diffuse perivascular and interstitial infiltration of neutrophils and a few eosinophils in the dermis (Figure 2). Based on the clinical, laboratory, and histopathological findings, RF was diagnosed. Since the patient refused systemic treatment during her pregnancy, she was treated only with topical corticosteroid (mometasone furoate) during week 18 to week 34 of her pregnancy. At week 35, the skin lesions were still uncontrolled and low-dose systemic corticosteroid (methylprednisolone 2 mg/day) was added to the treatment regimen. Thereafter, the skin lesions remained stable. Moreover, they improved rapidly

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after delivery. Two months after delivery, she was started on systemic isotretinoin to treat the residual lesions, most of which improved within three months. During 18 months of follow-up, there was no sign of recurrence.

Discussion

Rosacea fulminans is considered to be a rare and extreme form of rosacea.² It predominantly affects

healthy young women and is characterised by the sudden onset of prominent erythema, pustules, cysts, and sinuses on the face.¹ Although the exact cause is unclear, hormonal changes are probably a factor, since a relationship between RF and pregnancy or contraceptive use has been demonstrated.³ In 17 cases of RF in pregnant woman reported in the English-language medical literature,¹⁻⁹ RF occurred during pregnancy and improved significantly after delivery, as in our patient. It is therefore likely that the hormonal

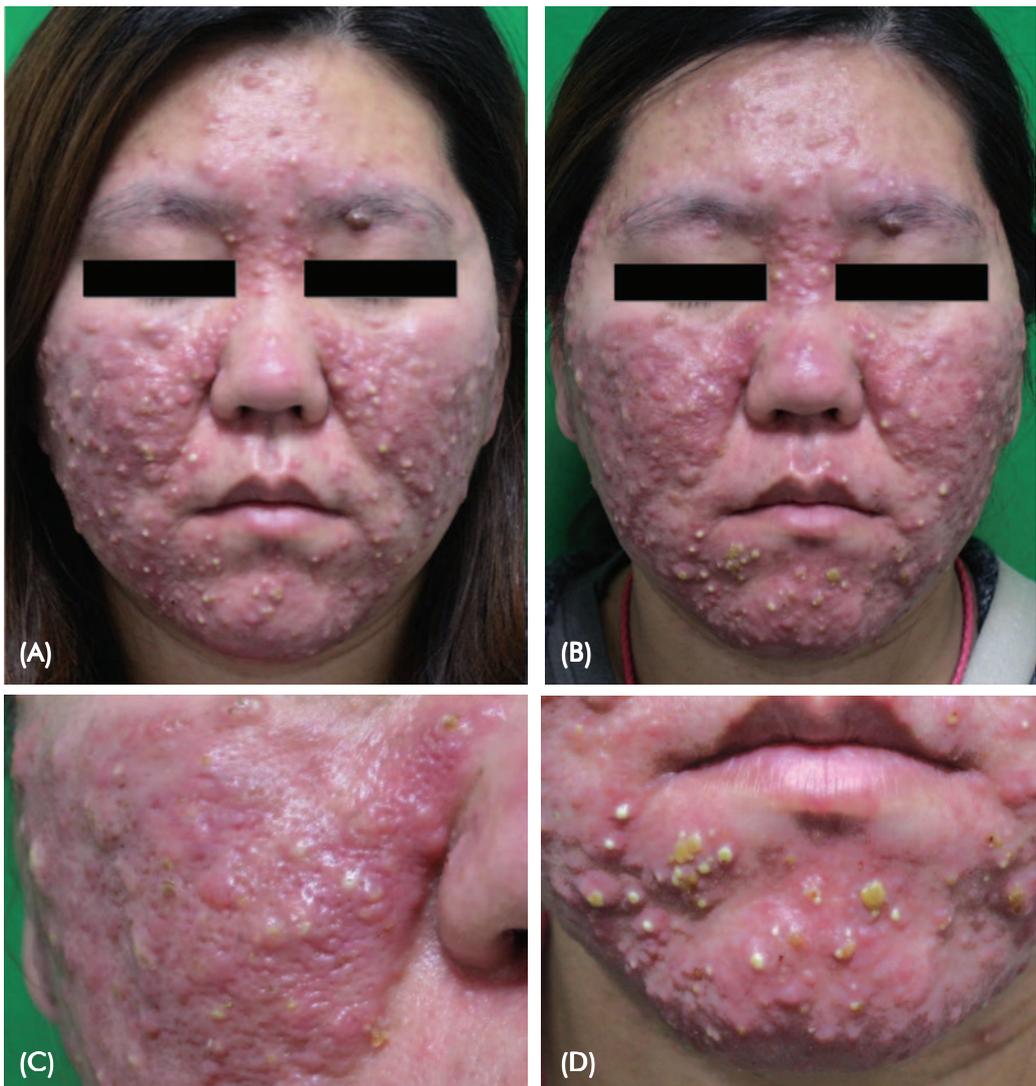


Figure 1. (A) Marked erythema with coalescing nodules and pustules on the face at first visit. (B) Mild aggravation of lesions despite 6 weeks of treatment with topical corticosteroids and emollients. (C&D) Close-up view of erythema, nodules, and pustules on the right cheek (C) and the chin (D).

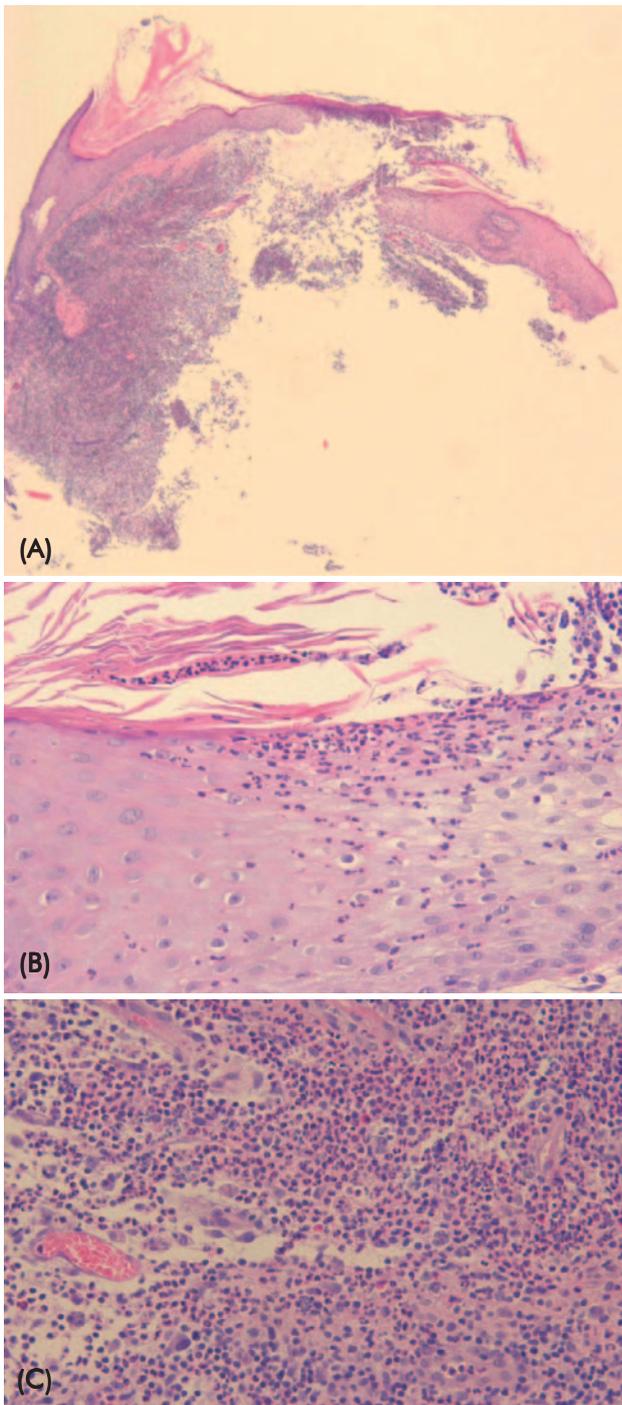


Figure 2. (A) Histopathological examination shows a spongiotic neutrophilic aggregation in the epidermis and diffuse perivascular and interstitial infiltration of inflammatory cells in the dermis (H&E, x40). (B) High-power view. Infiltration of neutrophils in the epidermis (H&E, x400). (C) Dense perivascular and interstitial infiltration of neutrophils and a few eosinophils in the reticular dermis (H&E, x400).

changes occurring during pregnancy affect the incidence or exacerbation of RF; however, the exact mechanism linking hormonal changes to RF has yet to be clarified.

RF is usually very stressful to patients because of the severe facial lesions. It may cause physical and psychological stress to the pregnant patient and thus contribute to a poor delivery outcome.⁷ Early diagnosis and proper management of RF is important, but the therapeutic choices available to pregnant women are limited. While systemic retinoids, tetracycline antibiotics, anti-androgenic contraceptives, and dapsone are generally used to treat RF,⁸ all of these drugs are contraindicated during pregnancy.⁹ In previously reported cases of RF in pregnancy, patients were treated surgically, including pustule extraction and incision and drainage. Other forms of treatment include topical antibiotics, topical corticosteroids, and systemic antibiotics, all of which are permitted during pregnancy, as are low-dose and short-term systemic corticosteroids (Table 1). In most pregnant patients with RF, these drugs result in a stable state of skin disease during pregnancy. Thus, until an optimal regimen for RF in a pregnant woman is determined, topical and systemic antibiotics with proper surgical drainage and low-dose systemic corticosteroids are effective choices for preventing an acute exacerbation during pregnancy. Above all, it is important that RF during pregnancy be diagnosed quickly, and that appropriate treatment and support are provided through cooperation with the patient's obstetrician.

RF is a rare and extreme form of rosacea that can occur in association with pregnancy. While hormonal changes, such as those occurring during pregnancy, seem to be the trigger for RF, further research is needed to determine the exact mechanism. Early diagnosis and proper surgical treatment, together with medications deemed safe for use during pregnancy, are important in the management of RF skin lesions, and to decrease the stress caused by the disease.

Table 1. Reported cases of rosacea fulminans (RF) associated with pregnancy

No.	Author	Patient age	Development of RF	Treatment during pregnancy	Outcome
1-5 (5 cases)	Massa and Su ⁴	N/A	4 cases: 3rd trimester 1 case: post-partum	N/A	N/A
6	Marks and Briggaman ⁵	25	2nd trimester	Incision and drainage, triamcinolone intralesional injection Topical corticosteroid (1% hydrocortisone) Oral antibiotics (erythromycin) Oral corticosteroid (prednisolone)	Healthy full-term delivery
7-10 (4 cases)	Plewig <i>et al.</i> ²	N/A	2 cases: 1st trimester 1 case: 3rd trimester 1 case: post-partum	Topical antibiotics (erythromycin, clindamycin)	N/A
11	Haugstvedt and Bjerke ⁶	35	N/A	N/A	N/A
12	Lewis <i>et al.</i> ¹	28	1st trimester	Oral antibiotics erythromycin, Oral corticosteroid (prednisolone)	Intra-uterine death
13	Fehrabas <i>et al.</i> ³	31	1st trimester	Incision and drainage, wet compression Topical antibiotics (fusidic acid, metronidazole) Oral corticosteroid (methylprednisolone)	Healthy full-term delivery
14-16 (3 cases)	Jarrett <i>et al.</i> ⁷	N/A	3 cases: 1st trimester	[1] Oral corticosteroid (prednisolone) [2] Oral antibiotics (erythromycin), Oral corticosteroid (prednisolone) [3] Oral antibiotics (erythromycin)	[1] Intra-uterine death [2] Termination due to anxiety [3] Healthy full- term delivery
17	de Morais <i>et al.</i> ⁹	26	2nd trimester	Oral antibiotics (erythromycin) Oral corticosteroid (prednisolone)	Healthy full-term delivery
18	This case	32	1st trimester	Topical corticosteroid (mometasone furoate) Oral corticosteroid (methylprednisolone)	Healthy full-term delivery

N/A, not available

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