Rowell Syndrome Triggered by Pregnancy

Rowell-Syndrom ausgelöst durch Schwangerschaft

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ABSTRACT

Rowell syndrome (RS) is a rare disorder associated with lupus erythematosus and erythema multiforme (EM)-like cutaneous lesions. This article presents a 21-year-old female patient who had been followed up for two years with a diagnosis of systemic lupus erythematosus (SLE) and developed RS in the second trimester of pregnancy. Our patient, whose disease exacerbated with skin findings during pregnancy, recovered on cyclosporine treatment without systemic involvement and delivered a healthy baby at term.

ZUSAMMENFASSUNG

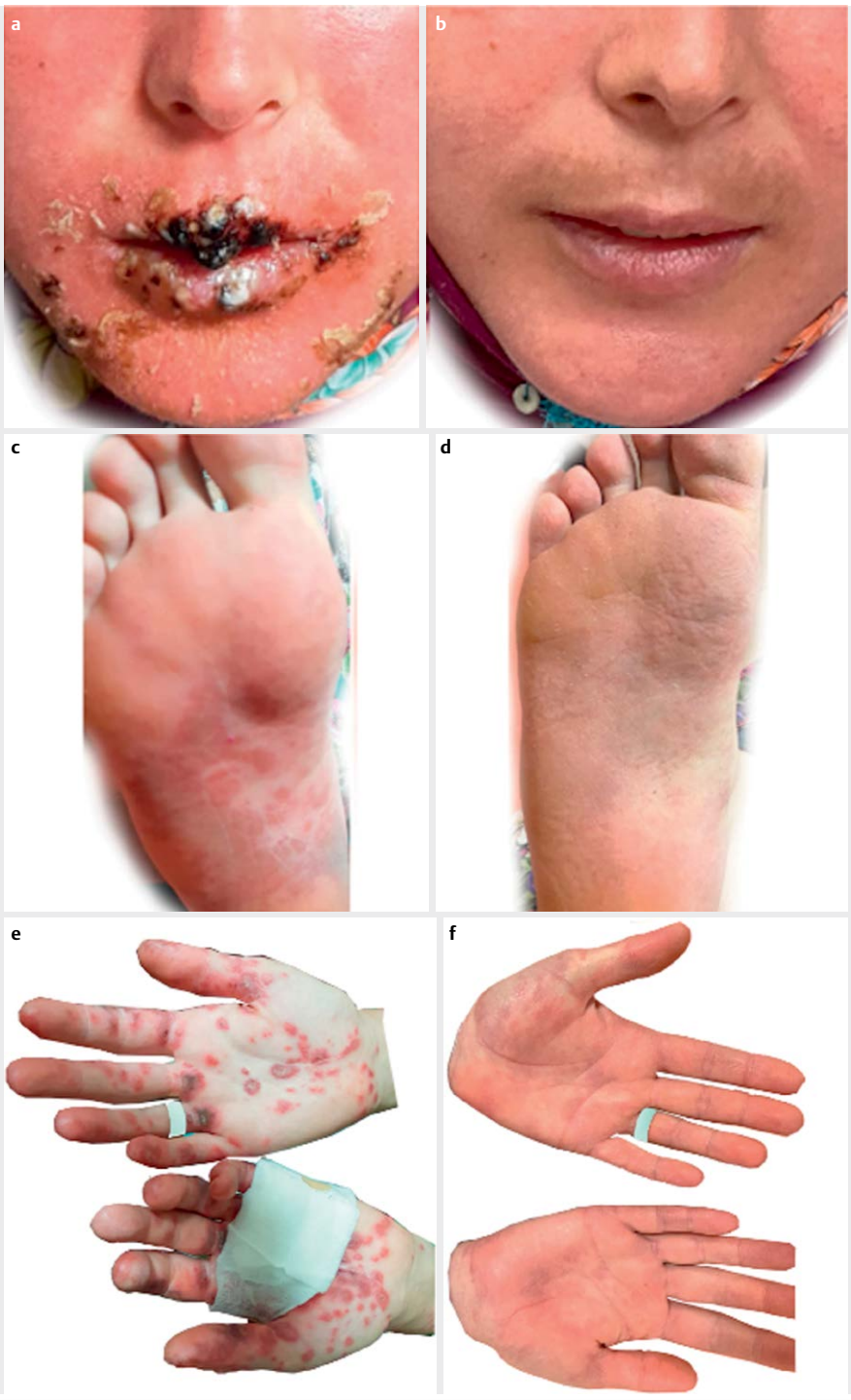
Das Rowell-Syndrom (RS) ist eine seltene Erkrankung, die durch eine Assoziation von Lupus erythematodes mit Erythema-multiforme(EM)-ähnlichen Hautläsionen gekennzeichnet ist. Wir stellen eine 21-jährige Patientin vor, die im zweiten Schwangerschaftstrimester, 2 Jahre nach Diagnose eines systemischen Lupus erythematodes (SLE), eine RS entwickelte. Unsere Patientin, deren Krankheit sich während der Schwangerschaft durch Hautbefunde verschlimmerte, erholte sich unter Cyclosporin ohne systemische Beteiligung und brachte termingerecht ein gesundes Baby zur Welt.

Introduction

Rowell syndrome (RS) is a rare and distinct entity associated with systemic lupus erythematosus (SLE) and EM-like skin lesions. We present a 21-year-old pregnant patient with SLE who was referred for EM-like rash that did not respond to immunosuppressive treatments such as corticosteroids and azathioprine. Most of the exacerbations of SLE during pregnancy are not severe and usually present with constitutional symptoms, musculoskeletal manifestations, and cutaneous lesions of different severity [1]. Pregnancy may have facilitated the emergence of skin lesions in our patient.

Case Report

A 21-year-old 17-week pregnant patient, followed up with the diagnosis of SLE for two years, presented with the complaint of skin lesions worsening for 20 days. There were hemorrhagic crusted lesions around the mouth, and target-like rashes on the extremities and trunk, more intense in the palmar and plantar regions (▶ **Fig. 1a,c,e**). She was referred to our clinic for a second opinion regarding cutaneous lesions. The patient was diagnosed with SLE two years earlier on the basis of fever, malar rash, arthritis, proteinuria (>0.5 g/24 h), anti-nuclear antibody (ANA), and Anti-Smith



▶ **Fig. 1** **a** hemorrhagic crusted lesions around the mouth; **c, e** target-like rashes on the palms and soles; **b, d, f** the resolution of skin rash with residual hyperpigmentation.

positivity. She was treated with hydroxychloroquine (HCQ) and azathioprine 150 mg. She had no comorbidity. There was no previous infection or new medication. The family history was unremarkable. The patient's laboratory results are shown in ▶ **Tab. 1**. Skin biopsy revealed focal epidermal necrosis, spongiosis, and ballooning degeneration. The patient with a SLEDAI score of 12 was given 250 mg of steroid for three days, and cyclosporine 200 mg was added to her treatment. The skin lesions of the patient, accepted as RS, resolved with hyperpigmentation (▶ **Fig. 1b,d,f**) and she delivered a healthy baby at term.

▶ **Tab. 1** Laboratory findings of the pregnant patient.

Tests	Results	Normal Range
Leukocytes	3.1×10^3	4–10.3 (10^3/uL)
Haemoglobin	9.6	12–16 g/dL
Platelet	181×10^3	156–373 (10^3/uL)
Creatinine	0.36	0.6–1.1 mg/dL
ESR	48	0–20 mm/hr
CRP	0.46	0.2–5 mg/L
APTT	26.3	26–37.1 s
PT	11.0	11.2–14.4 s
Rheumatoid factor	Negative	0–14 IU/mL
ANA	Positive (+++) homogeneous	Negative <1/100 T
Anti-ds DNA	200	<1/10 T
Anti-RNP/SM	Positive (+++)	<1/10 T
Anti-Smith	Positive (+++)	<1/10 T
Anti SS-A/Ro	Positive (+++)	<1/10 T
Anti-SS-B/La	Negative	<1/10 T
Anti-nucleosome	Positive (++)	<1/10 T
Anti-histone	Positive (+)	<1/10 T
Urine PCR	0.22	0–0.2 mg/mg
Complement C3 *	0.467	0.9–1.8 g/L
Complement C4 *	0.045	0.1–0.49 g/L
Complement C3 * *	1.01	0.9–1.8 g/L
Complement C4 * *	0.075	0.1–0.49 g/L

PCR, protein to creatinine ratio; ANA, anti nuclear antibody; Anti-RNP/SM, anti-ribonucleoprotein/Smith; APTT, activated partial thromboplastin time; CRP, C-reactive protein; ESR, erythrocyte sedimentation rate; PT, prothrombin time; T, titer; * before treatment; * * after treatment.

▶ **Tab. 2** Different diagnostic criteria for Rowell syndrome.

Criteria of Rowell et al [2]	Criteria of Zeitouni et al [3]	Criteria of Torchia et al [4]
▪ LE ▪ EM-like lesions (with absence of any known precipitating factors) ▪ Speckled pattern of ANA ▪ Serum antibody to extract of human tissues ▪ Positive rheumatoid factor ***Diagnosis: all features***	**Major criteria** ▪ LE (systemic, discoid, or subacute) ▪ EM (with or without mucosal involvement) ▪ Speckled pattern of ANA	**Major criteria** ▪ Presence of CCLE (DLE and/or chilblain) ▪ EM-like lesions (typical or atypical targets) ▪ At least one positivity among speckled ANA, anti-Ro/SSA, and anti-La/SSB antibodies ▪ Negative DIF on lesional EM-like lesions
	Minor criteria ▪ Chilblains ▪ Anti-Ro/SSA or anti-La/SSB ▪ Positive rheumatoid factor ***Diagnosis: 3 major + at least one minor criteria***	**Minor criteria** ▪ Absence of infectious or pharmacologic triggers ▪ Absence of typical EM location (acral and mucosal) ▪ Presence of at least one additional ARA criterion for diagnosis of SLE besides discoid rash and ANA and excluding photosensitivity, malar rash, and oral ulcers ***Diagnosis: 4 major criteria + at least one minor criteria***

ANA, Antinuclear antibodies; ARA, American Rheumatism Association; CCLE, chronic cutaneous lupus erythematosus; DIF, direct immunofluorescence assay; DLE, discoid lupus erythematosus; EM, erythema multiforme; LE, lupus erythematosus; SCLE, subacute cutaneous lupus erythematosus; SLE, systemic lupus erythematosus.

Discussion

Rowell et al. described a syndrome characterized by EM-like lesions and a specific immunological pattern [positive RF, ANA (speckled pattern) and serum antibody to extract of human tissues] in four of 120 patients with discoid LE [2]. However, since most of the cases reported later did not meet these original criteria, Zeitouni et al. suggested revised diagnostic criteria [3], but our patient did not meet these criteria because the ANA pattern was homogeneous. In 2012, 95 cases with LE-associated EM-like lesions were evaluated and RS was defined as chronic cutaneous LE (CCLE) subtype, and a new diagnostic set has been developed [4]. Our pregnant patient met all major and two minor of these new criteria. Different diagnostic criteria associated with Rowell syndrome are shown in ▶ **Tab. 2**. But it is still unclear whether the RS is an overlap, a coincidence, or a variant of cutaneous LE.

Fixed drug eruption, Stevens–Johnson syndrome, bullous pemphigoid, and cutaneous small vasculitis should be considered in the differential diagnosis of RS [5]. Therefore, a detailed medical history should be taken. Our patient did not have a new medication.

SLE tends to worsen during pregnancy, and disease exacerbations have been reported in different studies ranging from 13.5 to 65 % [6]. Most of the SLE flare during pregnancy is not severe; constitutional symptoms, skin and joint involvement are the most frequently seen. Cutaneous lesions of different severity have been reported in pregnancy, up to 93 % [1, 7]. Pregnancy may have precipitated the emergence of cutaneous lesions in our patient. Successful results have been observed with immunosuppressive drugs such as corticosteroids, HCQ, azathioprine, dapsone, mycophenolate mofetil, and cyclosporine in the literature [3, 8, 9]. Our patient's skin lesions disappeared leaving hyperpigmentation after cyclosporine was added to her current treatment.

Conclusion

We know that pregnancy may trigger an exacerbation of SLE and cutaneous lesions of different severity may be seen. Pregnancy may have accelerated the occurrence of RS in our patient.

Conflict of Interest

The authors declare that they have no conflict of interest.

References

[1] Georgiou PE, Politi EN, Katsimbri P et al. Outcome of lupus pregnancy: a controlled study. Rheumatology 2000; 39: 1014–1019

[2] Rowell NR, Beck JS, Anderson JR. Lupus erythematosus and erythema multiforme-like lesions: a syndrome with characteristic immunological abnormalities. Archives of dermatology 1963; 88: 176–180

[3] Zeitouni NC, Funaro D, Cloutier RA et al. Redefining Rowell's syndrome. British Journal of Dermatology 2000; 142: 343–346

[4] Torchia D, Romanelli P, Kerdel FA. Erythema multiforme and Stevens-Johnson syndrome/toxic epidermal necrolysis associated with lupus erythematosus. Journal of the American Academy of Dermatology 2012; 67: 417–421

[5] Sharma A, Sharma R. Rowell Syndrome: A case report and review of literature. Internet Journal of Rheumatology and Clinical Immunology 2016; 4: 1

[6] Clowse ME. Lupus activity in pregnancy. Rheumatic Disease Clinics of North America 2007; 33: 237–252

[7] Carmona F, Font J, Cervera R et al. Obstetrical outcome of pregnancy in patients with systemic lupus erythematosus. A study of 60 cases. European Journal of Obstetrics & Gynecology and Reproductive Biology 1999; 83: 137–142

[8] Lee A, Batra P, Furer V et al. Rowell syndrome (systemic lupus erythematosus + erythema multiforme). Dermatol Online J 2009; 15: 1

[9] Müller CS, Hinterberger L, Vogt T et al. Rowell syndrome – case report with discussion of significance of diagnostic accuracy. Case Reports 2011; 2011: bcr0920114755