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Autoimmune hepatitis overlapping with subacute cutaneous lupus erythematosus: A case report

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Abstract

Autoimmune hepatitis (AIH) is an autoimmune liver disorder which rarely coexists with systemic lupus erythematosus (SLE) and presents as an overlap syndrome affecting multiple organs. Herein, we report a case of a 35-year-old healthy male who was evaluated for bilateral leg oedema and was diagnosed with AIH 5 years back. Four years later he developed fever and multiple photosensitive skin rashes, worsening leg oedema and proteinuria to which a diagnosis of coexisting SLE was made. He was diagnosed with the rare entity of AIH subacute cutaneous lupus erythematosus overlap syndrome. He was medically managed with immunosuppressive medication to which he responded.

Key words: Autoimmune hepatitis, subacute cutaneous lupus erythematosus, systemic lupus erythematosus

Introduction

Autoimmune hepatitis (AIH) is a chronic necrotizing inflammatory disorder of unknown aetiology. It is characterised histologically by a heavy infiltrate of lymphocytes and plasma cells in the portal tract and serologically by the presence of circulating autoantibodies, and high serum gamma-globulin.(1) Patients with AIH may develop other autoimmune diseases. Systemic lupus erythematosus (SLE) is an autoimmune disease characterised by the production of antibodies to components of the cell nucleus in association with multiple organ involvement.(2)

Cutaneous lupus erythematosus (CLE) encompasses a wide range of dermatologic manifestations, which may or may not be associated with the development of systemic disease.(3) Three recognized subtypes of cutaneous lupus erythematosus (LE) are acute cutaneous LE (ACLE), subacute cutaneous LE (SCLE), and chronic cutaneous LE (CCLE). Patients presenting with SCLE skin lesions tend to have milder systemic disease and are less likely to have systemic disease activity.(4)

AIH and SCLE are two distinct autoimmune diseases that can present with overlapping clinical features. Although AIH primarily affects the liver and SCLE predominantly affects the skin, both conditions are characterised by autoantibody production and T-cell activation. Due to these similarities, the coexistence of AIH and SCLE can lead to diagnostic challenges and treatment complexities. In this case report, we describe the clinical presentation, diagnostic process, and management of a male patient with AIH-SCLE overlap.

Case presentation

A 35-year-old man was evaluated 5 years back when he presented with persistent bilateral leg oedema, fatigability, jaundice, and pruritic rash for one-month. He has no personal or family history of liver disease or connective tissue disorders. He denies alcohol

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consumption, history of blood transfusions or recent intake of hepatotoxic drugs. Following initial investigations, he was found to have chronic liver cell disease (CLCD), but despite extensive workup, no aetiology could be found. Immunological testing showed raised Immunoglobulin G (IgG) levels and liver biopsy showed interface hepatitis with bridging fibrosis which was consistent with AIH. The patient was started on prednisolone 50 mg mane and azathioprine 50 mg daily dose to which he partially responded. The same dose of prednisolone was maintained for 2 months while increasing the azathioprine dose to 100 mg daily to which the patient showed a satisfactory response. From the next month onwards, prednisolone was tapered off gradually and he was maintained on prednisolone 10 mg mane along with azathioprine 100 mg daily until he presented this time with the current symptoms.

Four years after the initiation of therapy he presented to the routine clinic with a fever and multiple photosensitive skin rashes on his arms, chest, back, and abdomen. It was a sudden onset, low-grade continuous fever which was not associated with chills and rigours. The onset of the skin rash was on the same day as the fever and it started from the chest and spread centrifugally. No other systemic manifestations were noted by the patient. As the symptoms progressively worsened over time the patient sought medical advice around 2 -3 weeks after the onset of symptoms.

On examination, he was febrile with a temperature of 38.0°C. He was not pale, not icteric, and no malar rash on his face was noted. There was no generalised lymphadenopathy. Bilateral pitting ankle oedema was present. There was a symmetrical erythematous maculopapular eruption predominantly distributed along the upper chest, abdomen, and lower back sparing the face and scalp. He had a blood pressure of 120/80 mmHg and a regular pulse of 84 beats per minute. Abdominal examination revealed a moderately distended abdomen with free fluid. His cardiovascular, respiratory and neurological examinations were unremarkable.

His investigation findings are mentioned in Table 1.

During our evaluation, the possible differential diagnoses which were considered for the rash were cutaneous drug eruption, SCLE and an allergic reaction as a part of DRESS syndrome. But with the characteristic findings in the skin biopsy report diagnosis of SCLE was confirmed. Hence, the patient was started on hydroxychloroquine and topical steroids which led to improvement in his skin lesions.

During the course of his illness, he has had multiple hospital admissions due to worsening bilateral leg oedema, abdominal distention & fatigability. During those admissions, he was detected to have nephrotic range proteinuria along with microscopic haematuria which was not seen in the current presentation.

Based on the clinical findings in the current presentation, a provisional diagnosis of hepatorenal syndrome was made by excluding other possibilities (obstructive uropathy, sepsis, nephrotoxic drugs, absent haematuria and non-significant proteinuria, poor response to volume expansion with intravenous albumin 1g/kg/day for 48 hours).

Furthermore, during the current presentation, his haemoglobin levels were found to be 6.5 – 7.2 mg/dL with a normochromic normocytic blood picture requiring multiple blood transfusions to maintain his haemodynamic stability. Despite low haemoglobin levels, no apparent bleeding manifestations or evidence of haemolysis was detected during the clinical examination. However, there were small varices with portal gastropathy in the upper gastrointestinal endoscopy and it was presumed to be the reason for the low haemoglobin in the background of anaemia of chronic disease.

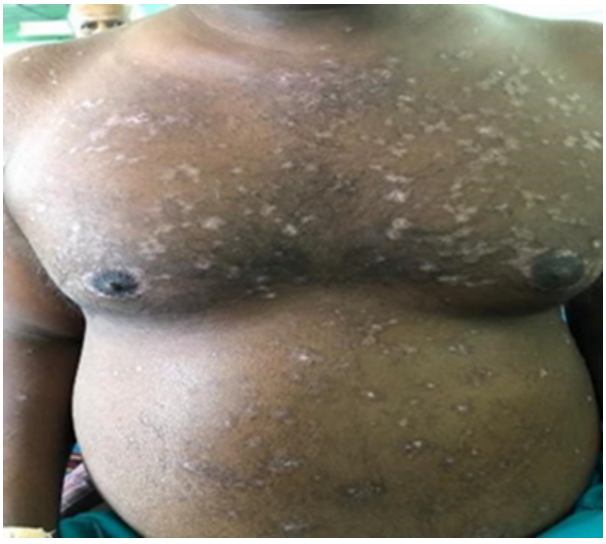

Figure 1 -Symmetrical erythematous maculopapular eruption predominantly distributed along the upper chest, abdomen, and lower back sparing the face and scalp

Furthermore, the other haematological manifestations were attributed to ongoing chronic liver cell disease and the absence of significant haematuria and proteinuria excluded the diagnosis of lupus nephritis. Multidisciplinary team input was

Table 1 - Summary of investigations

Investigation		Result		Reference range
		Day 01 of illness	Current presentation (5 years later)	
Full Blood Count	White Blood Cells	5.11 * 10^9/L	8.74* 109/L	4.5 – 11
	Haemoglobin	12.3 g/dL	7.2 g/dL	11-13
	Platelets	142 * 10^9/L	80* 109/L	150 – 400
Liver Biochemistry	Aspartate aminotransferase (AST)	136 IU/L	72 IU/L	10–35
	Alanine aminotransferase (ALT)	75 IU/L	53 IU/L	12–33
	Alkaline phosphatase (ALP)	92 IU/L	85 IU/L	300–500
	Total bilirubin	12.4 mg/dL	8.8 mg/dL	< 1.1
	Total Protein	-	8.5 g/dL	64 – 82
	Serum Albumin	-	2.7 g/dL	34 – 50
	Serum Globulin	-	5.8 g/dL	2-3.5
	Gamma GT	-	101U/L	5-40
Serum Creatinine		-	1.3 mg/dL	<1.2
Lipid Profile	Total Cholesterol	269 mg/dL	-	< 200
	Triglycerides	298 mg/dL	-	< 150
	HDL	39 mg/dL	-	35-65
	LDL	170.4 mg/dL	-	<100
Diabetes Screening	HbA1C	5.8%	-	< 6.5%
Iron Studies	Serum Iron	-	72.2 µ/dL	60 – 180
	Total Iron Binding Capacity	-	171.1 µ/dL	291 – 430
	Transferrin Saturation	-	42.19%	15 – 50%
	Serum ferritin	-	268 ng/mL	28 – 365

Table 1 - Summary of investigations continued..

Investigation		Result		Reference range
		Day 01 of illness	Current presentation (5 years later)	
Clotting Profile	Prothrombin Time	-	12 seconds	10 – 13
	INR (International Normalizing Ratio)	-	2.3	<1
Other Investigations	UPCR (Urinary protein to creatinine ratio)	-	48 mg/mmol	>300 – 350 nephrotic range
	Serum ceruloplasmin	34.6 mg/dL	-	20 – 60
Immunological Screening	Immunoglobulin (Ig) G	3526.5 mg/dL	-	700–1600
	dsDNA (Double Stranded DNA)	-	>150 IU/mL	<46.1
	Antinuclear antibody (ANA)		Positive	
	Anti-smooth muscle antibody		Positive	
	Anti-LKM Ab		Negative	
	Anti-Nuclear Factor		Positive	
Infection Screening	Hepatitis B Surface Antigen		Negative	
	Hepatitis B Antibody		Negative	
	Hepatitis C Antibody		Negative	
	Hepatitis A IgG antibody		Reactive	

Table 1 - Summary of investigations continued..

Investigation		Result (current presentation 5 years later)
Imaging Studies	Ultrasound scan Abdomen	CLCD with small amount of free fluid in pelvis.No portal hypertensionVarices present
	2D Echocardiography	Ejection Fraction – 60% Right Atrial & Right ventricular dilation present
	Upper gastrointestinal endoscopy	Very small oesophageal varices. No fundal varices.
	CECT Abdomen(Contrast Enhanced Computed Tomography)	Mild Hepatosplenomegaly with prominent left lobe. Portal/ hepatic veins normal
	Ultrasound guided Liver biopsy	CLCD with mild splenomegaly Interface Hepatitis with bridging fibrosis Fibrosis scoring 4.Portal tracts show ductular proliferation with lymphoplasmacytic infiltrate

obtained from the gastroenterology and haematology teams and the diagnosis of SCLE over SLE was entertained. He was started on a routine liver failure regimen while the 10 mg prednisolone dose was increased up to 60 mg mane to which he responded satisfactorily.

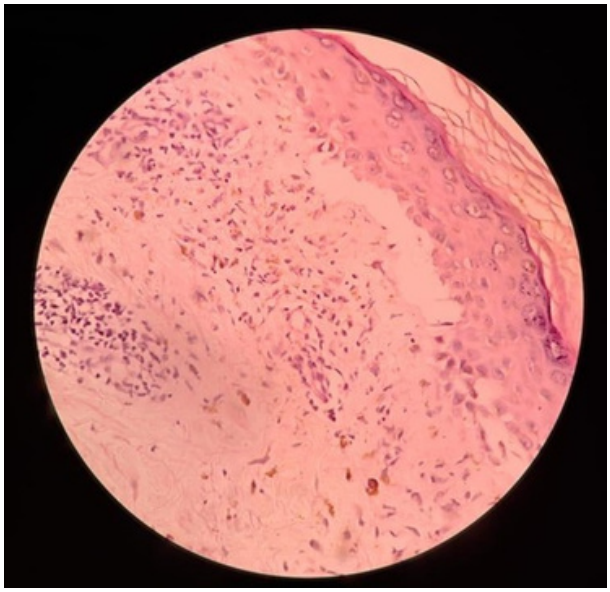

Figure 2 - Microscopic Features of Subacute Cutaneous Lupus Erythematosus. Interface dermatitis with vacuolization of basal keratinocytes and superficial lymphoid infiltrates

Discussion

SCLE represents a widespread, photosensitive, nonscarring, nonindurated form of lupus erythematosus (LE)-specific skin disease.(5) In contrast, AIH is an unresolved liver inflammation marked by hypergammaglobulinemia and autoantibodies in the blood.(1)

Concurrent autoimmune diseases are common in patients with AIH and mirror the full range of known autoimmune diseases. Therefore, an extended diagnostic screening for accumulating autoimmune diseases seems reasonable in patients with AIH.(6) The co-occurrence of autoimmune hepatitis (AIH) and SLE are deemed rare, with only a few case reports published thus far.(6) According to Runyon et al., 1980, liver disease was noted as early as four years before the diagnosis of SLE and as late as five years after its onset. Forty-five percent of the patients were noted to have liver disease and SLE in the same year. (7) Jablonska et al., 1998 suggested that patients with SCLE vary significantly from those with SLE in terms of cutaneous and visceral involvement, immunologic findings, photosensitivity, disease course, and therapy needs.(8) Subacute lesions are more common in patients with SCLE not fulfilling the ACR criteria for SLE but may be found in patients with SLE. (9)

Despite our patient being diagnosed with AIH based on histological findings in liver biopsy samples and

the presence of ANA and hypergammaglobulinemia, and SCLE based on clinical and cutaneous histopathology evidence, our patient did not fulfil the American College of Rheumatology criteria for SLE.

In our case, there is an overlap between AIH and SCLE, although there could still be an overlap between AIH and evolving SLE.

Conclusion

AIH and SCLE overlap is a very rare entity hence, co-occurrence of AIH and SCLE can pose a diagnostic and therapeutic challenge for clinicians. A high index of suspicion and a multidisciplinary approach is essential for the timely diagnosis and management of these overlapping autoimmune disorders.

Declarations

Conflicts of interest
None

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Consent for publication
Written informed consent was obtained from the patient for publishing this case report

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References

1. Takahashi A, Rai T, Onizawa M, et al. Autoimmune hepatitis is complicated by late-onset systemic lupus erythematosus. Hepatol Res. 2007;37(9):771-774. doi:10.1111/j.1872034X.2007.00091.x
2. Mok CC. Pathogenesis of Systemic Lupus Erythematosus. Vol 56.; 2003. www.jclinpath.com
3. Okon LG, Werth VP. Cutaneous lupus erythematosus: Diagnosis and treatment. Best Pract Res Clin Rheumatol. 2013;27(3):391-404. doi:10.1016/j.berh.2013.07.008
4. Walling H, Sontheimer R. Cutaneous lupus erythematosus: Issues in diagnosis and treatment. Am J Clin Dermatol. 2009;10(6):365-381. doi:10.2165/11310780-000000000000000
5. Sontheimer RD. Subacute cutaneous lupus erythematosus: 25-Year evolution of a prototypic subset (subphenotype) of lupus erythematosus defined by characteristic cutaneous, pathological, immunological, and genetic findings. Autoimmun Rev. 2005;4(5):253-263. doi:10.1016/j.autrev.2004.10.003
6. Beisel C, Weiler-Normann C, Teufel A, Lohse AW. Association of autoimmune hepatitis and systemic lupus erythematodes: A case series and review of the literature. World J Gastroenterol. 2014;20(35):12662-12667. doi:10.3748/wjg.v20.i35.12662
7. Runyon BA, LaBRECQUE DR, Anuras S, city I. The Spectrum of Liver Disease in Systemic Lupus Erythematosus Report of 33 Histologically-Proved Cases and Review of the Literature. Vol 69.; 1980.
8. Jablonska S, Chlebus E, Wolska H, et al. Subacute Cutaneous Lupus Erythematosus versus Systemic Lupus Erythematosus: Diagnostic Criteria and Therapeutic Implications.; 1998.
9. Yell JA, Mbuagbaw J, Burge SM. Cutaneous manifestations of systemic lupus erythematosus. Br J Dermatol. 1996;135(3):355-362. doi:10.1046/j.1365-2133.1996.d011004.x

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