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BUDD-CHIARI SYNDROME AS AN INITIAL MANIFESTATION OF INCOMPLETE SYSTEMIC LUPUS ERYTHEMATOSUS

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ABSTRACT

This article describes a case of a 26-year-old female with a history of Evan's syndrome who presented with severe exertional dyspnoea and abdominal discomfort. The patient was diagnosed with chronic Budd-Chiari syndrome, a rare vascular disorder characterized by obstruction of the hepatic vein. We discuss the risk factors, the clinical manifestations, and diagnostic methods for Budd-Chiari syndrome, as well as the possible association with an underlying incomplete systemic lupus erythematosus. The importance of close follow-up and timely diagnosis for preventing disease progression and reducing mortality is emphasized. The article concludes by highlighting the need for further monitoring to identify any symptoms or signs suggesting a progression to complete lupus erythematosus.

KEYWORDS

Budd-Chiari syndrome, Evan's syndrome, antiphospholipid syndrome, incomplete lupus, autoimmune disorders

LEARNING POINTS

- Budd-Chiari syndrome can present as the initial manifestation of a broader autoimmune disorder such as incomplete systemic lupus erythematosus.
- Evan's syndrome, when associated with other thrombotic conditions like antiphospholipid syndrome, may indicate an underlying, evolving autoimmune process.
- Early recognition and management of incomplete lupus are crucial to prevent progression to a full-blown systemic lupus erythematosus and associated complications.

INTRODUCTION

Budd-Chiari syndrome is a rare vascular disorder characterized by obstruction of the hepatic vein, anywhere from the hepatic venules to the atrio-caval junction that can lead to impaired liver drainage and subsequent hepatic congestion. The exact incidence in the general population is unknown but estimated to be approximately 0.1 to 10 per million individuals per year depending on the region and underlying aetiologies[1].

Risk factors for Budd-Chiari syndrome include hematologic disorders such as polycythaemia vera and essential thrombocytosis, as well as conditions associated with

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hypercoagulability, such as antiphospholipid syndrome, oral contraceptive use or pregnancy[2]. Clinical manifestations of Budd-Chiari syndrome range from asymptomatic cases to acute liver failure, with common symptoms including abdominal pain, hepatomegaly, ascites, and jaundice. The suspicion of Budd-Chiari syndrome is typically confirmed through imaging studies, such as Doppler ultrasound, computed tomography scan, or magnetic resonance imaging, which reveal hepatic vein obstruction. It is important to state that Budd-Chiari syndrome is often underdiagnosed. Indeed, in a recent Indian study a delay of six months from onset of symptoms before diagnosis was noted in most patients[3].

Treatment options for Budd-Chiari syndrome vary depending on the severity and underlying cause but may include anticoagulation therapy, thrombolysis, angioplasty with or without stent placement, and, in severe cases, liver transplantation.

CASE DESCRIPTION

A 26-year-old female, with a known history of Evans' syndrome presented to the emergency room for severe exertional dyspnoea associated with abdominal and epigastric discomfort. These symptoms were associated with a deterioration of her general condition that started six months prior to the current hospital admission. The patient was not on any pharmacological treatment except for contraceptive hormonal therapy and her underlying condition was in full remission after being treated with corticosteroids and rituximab. On arrival, the patient was apyretic and hemodynamically stable. Physical examination showed a venous ectasia of the abdominal wall and signs suggestive for hepatosplenomegaly. The rest of the clinical examination was normal, ascites was not clinically detected. Laboratory exams showed normal values for haemoglobin, white blood cell count, platelets and coagulation tests. The liver and renal values were normal, no inflammatory response was identified. The serum protein electrophoresis was normal and viral serologies for hepatitis B, hepatitis C, human immunodeficiency virus, syphilis, cytomegalovirus and Epstein-Barr virus were negative. Furthermore, complement level C3 and C4 were within range. An antinuclear antibody (ANA) screening was positive (1/80), with a circulating positive lupus anticoagulant. The complete laboratory investigations are shown in *Table 1*.

Further work-up included an abdominal ultrasound showing an increased size of the liver with regular margins in the absence of focal echostructural alterations. Splenomegaly was also documented. To exclude a cardiac origin of the dyspnoea, a transthoracic echocardiogram was performed. This exam documented an occlusion of the proximal inferior vena cava reaching the right atrium. This extensive thrombotic formation was confirmed by a computed tomography (CT) scan, which identified a thrombus from the intrahepatic inferior vena cava to the right atrium. Magnetic resonance angiography highlighted a congenital hypoplasia of the pars hepatic of the inferior vena cava *(Fig. 1)*.

These findings were consistent with a diagnosis of a chronic Budd-Chiari syndrome, leading to liver stasis and hepatosplenomegaly. Therapeutic anticoagulation was promptly initiated, subsequently the thrombus was surgically removed and percutaneous inferior vena cava stenting was performed without complications.

DISCUSSION

This case report describes the presentation and diagnosis of a 26-year-old woman who presented to the emergency department with severe exertional dyspnoea and abdominal pain. The initial presentation prompted a thorough diagnostic work-up. Imaging studies, including Doppler ultrasound and CT scan, revealed hepatic vein thrombosis, confirming the

Laboratory findings	Day of presentation	Reference range
Haemoglobin (g/l)	12.5	12-16
Platelets (×10^9/l)	158	150-400
White blood cells (×10^9/l)	6.7	4-10
Bilirubin (µmol/l)	16.2	< 19
Gamma-GT (UI/l)	28	< 36
AST (UI/l)	21	10 - 35
ALT (UI/)	20	10 -35
eGFR (ml/min/1.73m^3)	107	> 60
Creatinine (mg/dl)	59	44- 80
PT (sec)	86	70-130
aPTT (sec)	29	< 35
INR	1.1	-
C-reactive protein (mg/dl)	2	< 5
ESRS	5	< 10
C3 (g/l)	1.04	0.9-1.8
C4 (g/l)	0.10	0.1-0.4
ANA (titles)	1:80	< 1:80
Anti-b2-glycoprotein	negative	negative
Anti-cardiolipin IgG antibodies	negative	negative
Lupus anticoagulant	2.1	1.2-2

Abbreviations: AST, aspartate transaminase; ALT, alanine transaminase; eGFR, estimated glomerular filtration rate; PT, prothrombin time; aPTT, activated partial thromboplastin time; INR, international normalized ratio; ESR, erythrocyte sedimentation rate; ANA, antinuclear antibodies.

Table 1. Laboratory investigations at admission.

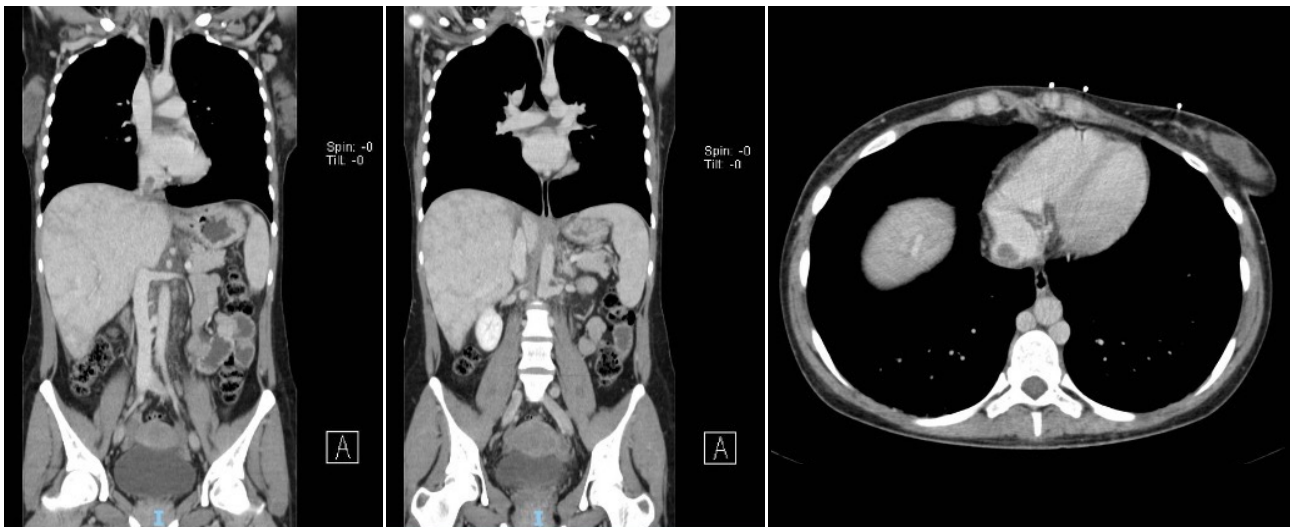

Figure 1. Computed tomography scan with extensive thrombotic formation from the intrahepatic inferior vena cava to the right atrium.

diagnosis of Budd-Chiari syndrome. Further laboratory tests identified the presence of lupus anticoagulant, eventually leading to the diagnosis of antiphospholipid syndrome. Antiphospholipid syndrome is known for its association with thrombotic events, aligning with the clinical findings in this patient. Additionally, the patient presented another risk factor for thrombosis: she was on combined hormonal contraceptives, which could have further contributed to her predisposition to thrombotic events. In this context, contraceptive therapy was switched to an intrauterine device. However, given that the patient will require lifelong anticoagulation, resuming oral contraceptive therapy could be considered, as studies have shown that combined hormonal contraceptives do not increase the risk of thrombosis in women undergoing therapeutic anticoagulation[4].

Notably, our patient also presented another interesting immunological feature, a positivity for ANA >1:80. This positivity, along with the current and past medical history (Evan's syndrome) of this patient can raise suspicion of an underlying incomplete systemic lupus erythematosus (SLE). Incomplete SLE is an acknowledged condition characterized by patients exhibiting clinical signs of lupus and immunologic abnormalities without fulfilling the full classification criteria for systemic lupus erythematosus based on current guidelines. Patients with incomplete SLE can experience serious organ involvement, and up to 55% progress to established SLE[5]. Throughout the past decades, a number of studies investigating incomplete SLE have been published but they use various definitions for incomplete SLE, which hinders a clear comparison between studies. A recent review proposed a definition of incomplete SLE characterized by the presence of positive ANA along with at least one clinical manifestation (acute or subacute cutaneous lupus, chronic cutaneous lupus, oral or nasal ulcers, alopecia, synovitis, serositis, neurologic manifestations, renal manifestations). Alternatively, the diagnosis can be made if the patient has positive ANA and at least two of the following features: hematologic abnormalities, immunologic markers, or a positive family history of autoimmune rheumatic disease[5]. According to this definition, our patient had, in addition to an ANA titre >1:80, two other diagnostic criteria: antiphospholipid antibody syndrome and hematologic manifestations. Our patient was known for a history of Evan's syndrome, a rare autoimmune disease defined as the concomitant or sequential occurrence of immune thrombocytopenia and warm autoimmune haemolytic anaemia. Evan's syndrome can be classified as primary or secondary if associated with an underlying disease such as lymphoproliferative disorders or SLE[6,7]. In our patient, the diagnosis of Evan's syndrome was made four years prior to the current presentation. The diagnosis followed an initial episode of immune thrombocytopenia, subsequently accompanied by warm autoimmune haemolytic anaemia. At that time, an autoimmune panel, including ANA, was negative. An infection and tumor screening were also performed and yielded negative results, supporting the diagnosis of primary Evan's syndrome. The patient was treated with corticosteroids and rituximab, achieving complete resolution after three months. No further follow-up evaluations were conducted. Evan's syndrome is well known to be associated with SLE and can sometimes precede the onset of the disease. In retrospect, this raises the question of whether our patient's Evan's syndrome and Budd-Chiari syndrome could have been initial manifestations of an underlying incomplete SLE. Therefore, close follow-up is crucial. Failing to recognize early progressive forms of incomplete SLE can lead to potentially serious consequences. Timely diagnosis of SLE and the initiation of appropriate treatment are essential to limit disease progression, prevent organ damage, and reduce mortality[8,9].

The patient is currently stable, with no reported active symptoms. Nonetheless, vigilant monitoring is warranted to detect any emerging signs or symptoms indicative of progression to SLE. Although specific guidelines for surveillance in cases of incomplete lupus are lacking, recent literature recommends regular evaluation of ANA, double stranded deoxyribonucleic acid (dsDNA), extractable nuclear

antigens (ENA), and complement levels to facilitate early detection of systemic lupus erythematosus development[8].

CONCLUSION

Budd-Chiari syndrome is a rare and often challenging condition to diagnose due to its nonspecific symptoms and variable presentation. As illustrated in this case, clinicians should maintain a high index of suspicion for Budd-Chiari syndrome, particularly in patients with known risk factors, such as autoimmune disorders and hypercoagulable states like antiphospholipid syndrome. In such contexts, early imaging and thorough diagnostic work-ups are crucial to promptly identify this condition. Importantly, Budd-Chiari syndrome may be a manifestation of an underlying pathology, as demonstrated by our patient, who was subsequently diagnosed whit incomplete systemic lupus erythematosus. After diagnosing Budd-Chiari syndrome, we therefore encourage clinicians to consider potential associated conditions and to maintain a low threshold for further investigation. Furthermore, close and long-term monitoring is essential to detect a potential progression to systemic autoimmune diseases or haematological disorders. Overall, this case underlines the need for a multidisciplinary approach and close collaboration between different specialties to ensure timely diagnosis and appropriate management of complex autoimmune and vascular disorders.

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