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Case Report

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# A Rare Case of Spontaneous Splenic Rupture in a Young Patient with Infectious Mononucleosis

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**ABSTRACT**

Spontaneous splenic rupture is a rare but serious complication of infectious mononucleosis (IM) caused by Epstein-Barr virus (EBV). We present a case of a 34-year-old male who developed spontaneous splenic rupture without the typical features of IM. This article discusses the clinical presentation, diagnostic workup, management, and relevant literature on this life-threatening complication.

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## Introduction

Epstein-Barr virus (EBV), also known as human herpesvirus 4, is one of the most common pathogenic viruses in humans. EBV often causes IM or glandular fever which can present with wide range of symptoms including fatigue, fever, sore throat, and swollen lymph nodes. Some individuals experience a rash, while others might notice an enlarged spleen or liver. We present a case of young 34 y old patients who presented with atypical symptoms and how have we proceeded to the correct diagnosis which led to right management.

## Case Report

A 34-year-old male presented to the emergency department (ED) with complaints of multiple episodes of vomiting and diarrhea, followed by a syncopal episode and lower urinary tract symptoms. He was tachycardiac, febrile and hypotensive on presentation. Abdominal examination showed tenderness in the left lower quadrant and suprapubic region. However rest of systemic examination was unremarkable [1-3].

## Initial Investigations

His laboratory workup showed the following significant abnormalities:

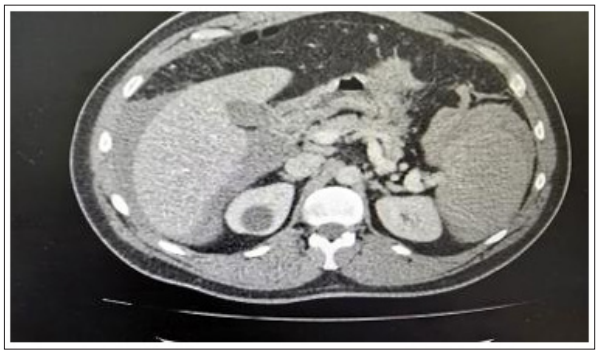
- **Lactate:** 2.8 mmol/L (normal range: 0.6-2.5)
- **CRP:** 39 mg/L (normal: 0-5)
- **WCC:** 14.2 × 10^9/L (normal: 4-11)
- **Hemoglobin:** 83 g/L (normal: 130-180)
- **Lymphocyte count:** 8.2 × 10^9/L (normal: 1-4)
- **Bilirubin:** 26 µmol/L (normal: 0-20)
- **ALT:** 211 U/L (normal: 0-55)
- **ALP:** 468 U/L (normal: 30-130)

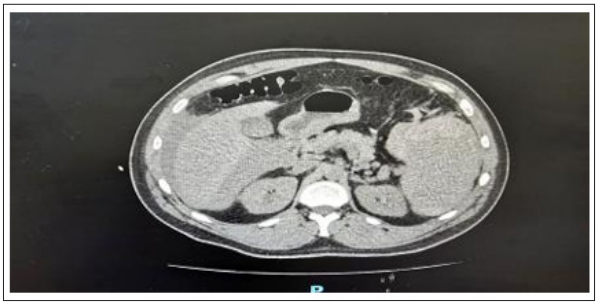
His chest X-ray was normal. The initial working diagnosis was sepsis, likely due to a urinary tract infection (UTI), and he was started on intravenous broad-spectrum antibiotics and fluids.

## Radiological Findings

- A CT scan of the abdomen and pelvis was performed to investigate possible hepatobiliary causes for the deranged liver function tests. The CT scan revealed:
- Splenomegaly
- Large subcapsular splenic hematoma
- Free blood in the abdominal cavity, suggestive of splenic rupture.

The findings were consistent with a spontaneous splenic rupture, a rare complication of IM. Given the risk of ongoing hemorrhage, the patient was promptly referred to the surgical team for management.





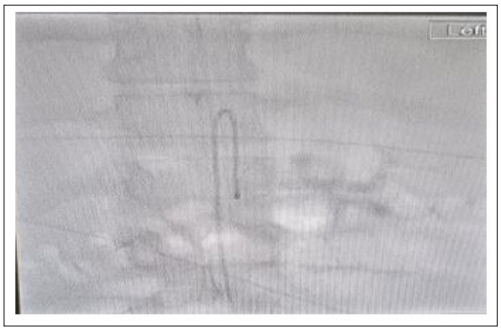
**Diagnosis of Infectious Mononucleosis**

As part of the workup for splenomegaly and deranged liver function tests, an **EBV serology** was performed. The results were positive for EBV IgM antibodies and a high EBV viral load, confirming the diagnosis of infectious mononucleosis.

**Management and Intervention**

Given the presence of a large hematoma and free blood, a CT triple-phase abdomen/pelvis was performed 3 hours after the initial scan. This showed no significant change in the volume of free blood and no active bleeding, suggesting that the patient was stable for the moment. However, the patient's condition deteriorated over the next 24 hours, with a noticeable increase in the size of the hematoma.

Due to the progression of the hematoma, the patient required a blood transfusion (2 units). Subsequently, he underwent interventional radiology (IR) embolization to control the hemorrhage and prevent further complications.



**Discussion**

Atraumatic Splenic rupture is a rare but severe complication of infectious mononucleosis. The pathophysiology of this complication is not entirely being understood but is thought to be result of increased splenic size due to the EBV infection which ultimately leads to splenic capsule tension and in some cases rupture. Although it occurs in a small percentage of IM cases (0.1–0.5%), splenic rupture remains the leading cause of death in these patients. In the case we describe, the absence of typical symptoms such as sore throat or lymphadenopathy delayed the diagnosis. However, the combination of fever, elevated inflammatory markers (CRP), and abnormal liver function tests eventually pointed to think about hepatobiliary source.

Spontaneous splenic rupture without preceding trauma is rare, and its symptoms can be nonspecific, which can make the diagnosis challenging. The key to management lies in early recognition through appropriate imaging, such as CT scans, and prompt intervention, including blood transfusion and embolization when necessary.

**Conclusion**

Spontaneous splenic rupture is a rare and potentially fatal complication of infectious mononucleosis. Although the overall incidence is low, clinicians should be aware of the risk, especially in cases where there is unexplained abdominal pain, hypotension, or signs of internal bleeding alongwith Hb drop and deranged LFTS. Early diagnosis through imaging and timely interventions such as embolization are essential to preventing adverse outcomes.

This case highlights the importance of considering splenic rupture in the differential diagnosis of any patient with infectious mononucleosis who presents with abdominal symptoms, even in the absence of classic signs such as sore throat or lymphadenopathy.

**References**

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